

Miller (Hegy)

LECTURES
ON
INFLAMMATION AND ULCERATION
OF THE
CERVIX UTERI.

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LECTURE 1.

THE Croonian Lectures for the year 1854 were assigned to Dr. CHARLES WEST, of London, who selected as his theme "An Inquiry into the Pathological Importance of Ulceration of the Os Uteri,"—and to the discussion of the subject he devoted three lectures, which make in print an octavo volume of ninety-five pages. These lectures have been favorably received by the profession in England, and have just been republished in this country in the *Medical News and Library*, heralded by the *American Journal of the Medical Sciences*.

The liability of the os uteri to such a lesion was either unknown or but slightly regarded until the *speculum uteri* gave ocular proof of its reality, and suggested the application of topical remedies for its cure. Then as always before, when a novel method of investigation is introduced, or a new mode of treatment pro-

[1855 ad subseq.]

posed, it was not to be expected that the innovation would be adopted, until it had received the sanction of experience and the stamp of criticism. Accordingly the speculum and its revelations, its uses and abuses, have given rise to much animated discussion and, in not a few instances, to acrimonious criticism, mingled with personal abuse and downright blackguardism.

In the temper and phraseology of these lectures of Dr. WEST, I find nothing that is exceptionable. His style is chaste and his manner is courteous and dignified. But the means which he has resorted to to disparage and, to the extent of his abilities, render contemptible the doctrine and practice of those from whom he differs, are not so laudable. After the most careful perusal of his lectures, my deliberate judgment is, that for whatever force or point they may possess, they are indebted to such a partial statement of the doctrine oppugned as amounts to actual misrepresentation. Not that Dr. WEST is ignorant of the doctrine he has undertaken to explode, or that he has failed to set it forth, once and again, in various parts of his lectures. But these full and explicit statements of it appear only in the course of his discursive remarks and in an incidental manner. When they are made to assume the distinct and substantive form of a proposition, which is to be sustained or refuted, then the resort to the artifice of a mutilated statement may be easily discovered, and to this and this alone he owes the apparent victory which he achieves in the controversy.

Nor are these lectures free from the vice of dissimulation. When Dr. WEST wings an argument and succeeds, to his satisfaction, in infixing its point in the obnoxious doctrine, he is wont to assume a philosophical air, and caution his hearers against yielding too implicitly to its force, for after all, the doctrine which it seems to refute may be valid and its validity may perhaps be established by counter evidence of greater potency. This apparent ingenuousness and, as I must regard it, affectation of philosophical caution and distrust, mightily predisposes the reader to submit himself to the guidance of Dr. WEST and quietly to adopt whatever conclusions he may reach.

To justify these general reflections, let us proceed to a critical examination of the work before us.

The first lecture of Dr. WEST opens with some pertinent allusions to the more usual sources of the sexual disorders of females, which he finds in the situation, structure and functions of the womb. By its situation at the lowest part of the trunk and the absence of valves from its veins, the return of blood from the organ is rendered difficult, while it is subject, every month, to sanguinous inundations which are abated by the increased natural secretions of its internal surface and the hemorrhage which "breaks forth along the whole tract." The hemorrhage may be protracted or checked by slight causes, and, in either case, derangement of the organ and impaired health of the individual may be the consequence.

Again: in the laxity of the ligaments that support the uterus and their liability to be weakened by the causes, which increase the weight of the body they have to bear, is found a cause of displacement of the organ, especially of prolapsus. And when prolapsed, it is exposed to disturbing and irritating influences, from which it was exempt while suspended in the pelvic cavity.

The last source of disorders of the womb, pointed out by Dr. WEST, is furnished by the changes that attend upon conception and parturition. I need not follow him in his brief but accurate description of these changes. It is sufficient to say, that he finds, and justly I think, in all causes that interrupt the return of the uterus, after delivery, to its unimpregnated condition, a most fruitful source of disease. It is apt to remain permanently increased in size, the menstrual function is ill-performed, its secretions differ in quantity and quality from those of its healthy state, all the sexual functions are apt to be performed with pain, impregnation is less likely to occur, and if pregnancy should take place, there is great probability of its coming to a premature termination.

"This set of symptoms, however," as Dr. WEST very properly remarks, "or at least many of them, are met with independent of pregnancy and its consequences, supervening sometimes, indeed, under the influence of causes which evidently, and in a marked manner, interfere with the generative functions, but coming on at other times slowly, and, as far as we can discover, without cause. How are they to be explained? Do they proceed from an invariable pathological occurrence, which is present in every case, how

wide soever may be in other respects the points of difference between them—or are they the indications of disordered function, which may depend on causes as various as those which produce vomiting or occasion dyspnoea? The enquiry is manifestly an important one; its elucidation will be the object of these Lectures. It has been said that there is an invariable, or almost invariable, cause of these symptoms,—that, be the remote occasion of them what it may, inflammation and ulceration of the neck of the womb is their immediate cause,—that the key to the right understanding of uterine diseases is to be found in the correct appreciation of the importance of this condition; and the cardinal point in their treatment consists in the adoption of means for its cure."

Dr. WEST next describes the "ulcerations" to which such important results are attributed, and I shall offer no particular objection to his description. They are, in truth, for the most part, "mere superficial abrasions of the epithelium investing the lips of the os-uteri," and they do "seldom or never present an excavated appearance with raised edges, as ulcers of other parts often do." But when he speaks of these ulcerations as of such weighty moment, in the estimation of some, he does injustice to the opinions of those with whom he differs, for I will venture to affirm that no writer on this subject can be referred to, who attaches any pathological value to these superficial abrasions, apart from the inflammation of which they are merely the effects. They are the product, but not the invariable sequence of inflammation. Inflammation may exist, and that too in great intensity, without ulceration, and whether ulceration attend or not is of trivial importance, as it demands little or no special treatment and does not materially add to the gravity of the symptoms. The essential disease is *inflammation*, and it is unfortunate, I think, that the accompanying lesion of structure, which may or may not attend, has attracted notice beyond its deserts, seeing that it is calculated needlessly to alarm patients thus afflicted, and has been the occasion of unprofitable verbal disputes.

In the quotation which has just been made, Dr. WEST, it will be observed, does full justice to the doctrine he is combating by coupling inflammation with ulceration; but in the immediately succeeding paragraph, descriptive of the ulceration, he is guilty of

the unfairness I have charged against him, in alleging that it is ulceration only which is the *summum malum* of those whom he is opposing; and here commences his mighty effort, which is continued with unabated force throughout his lectures, to deprecate and ridicule these ulcerations, by such expressions as the following:—"seemingly trivial ulceration of the os uteri," "some slight abrasion of the mucous membrane covering this part," "trifling abrasion or ulceration of the os uteri," as if those whose views he is controverting verily believed that a lesion, of no greater consequence than a pin scratch, can mar the functions of the entire sexual apparatus and project its malign influence to distant organs in sympathy with it.

It is this resort to an equivoke—using the term "ulceration" as an equivalent for inflammation and ulceration, but expecting the reader to understand by it nothing more than an insignificant abrasion, which gives to Dr. WEST an unfair advantage in the argument—a logical trick, which he practices throughout his lectures and is well calculated to bewilder his reader.

Having described the morbid appearances of the os uteri, when brought under ocular examination by the speculum, and referred to their paramount importance in uterine pathology, in the estimation of some, Dr. WEST proceeds to propound the question which he has undertaken to discuss, viz:—"Whether ulceration of the os uteri is to be regarded as the first in a train of processes which are the direct or indirect occasion of by far the greater number of the ailments of the generative system; or whether, on the other hand, it is to be considered as a condition of slight pathological importance, and of small semeiological value,—a casual concomitant, perhaps, of many disorders of the womb, but of itself giving rise to few symptoms, and rarely calling for special treatment?"

Here I beg you to observe that the trick—the equivoke—which has been exposed, is had recourse to in the very statement of the question to be discussed. If by "ulceration" of the os uteri Dr. WEST means a trifling abrasion, independent of precursory and accompanying inflammation, all argumentation is precluded, for it would be a waste of time to combat such a spectre—such a mere

pathological ghost. Inflammation, I repeat it, is the essential disease, and ulceration is but an accident of no pathological or therapeutical value.

Dr. WEST next proceeds to adduce the allegations by which the former opinion, namely, that which rates highly the importance of ulceration of the os uteri, is supported; and then to remove all suspicion that the whole of what can be urged in its favor may not have been frankly and fully brought forward, he makes the following affirmation:—"This picture (and I have added nothing to its coloring) of all the ills which follow from the *seemingly trivial ulceration* of the os uteri, must certainly be allowed to warrant those who drew it, if only it be a faithful portraiture, in attaching great importance to this affection,—in trying to discover it as early, to cure it as speedily as possible." Here is a part of the "picture":—"It is then inflammation, with its attendant ulceration of the os and cervix uteri, and usually with consecutive induration of its tissue, to which, according to these views, the sufferings of the patients are due; and all the varied disorders of the uterine functions, the pain, the leucorrhœa, the hæmorrhages, the irregular menstruation, the sterility, or the frequently occurring abortions, are attributed to the sympathies of contiguous parts with that small portion of the womb which is the seat of disease." Who has attributed *all* the varied disorders of the uterine functions to inflammation and ulceration of the cervix? Not Dr. BENNET certainly, who no doubt sat for the picture, for neither he nor any one else has alleged more than that this condition of the cervix is a frequent cause of such disorders. Dr. WEST's sneer at the neck as "a small portion of the womb," can be regarded only as a small device to weaken the fortress he wishes to demolish. It is another of his tricks, which I shall presently expose, in endeavoring to assign to the cervix its proper rank in the economy of the sexual organs.

The evidence by which to try the truth of the doctrine, which he has arraigned, is, according to Dr. WEST, very various in its kind and also of very various worth. He arranges it, however, under four principal heads, which I give in full and verbatim, in order that his plan of operations may be fairly unfolded.

"In the *first place* we may enquire how far these statements receive confirmation from what we know of the anatomy and physiology of the uterus in a state of health.

"Still, what answer soever we may receive to this question, it cannot, from its very nature, be conclusive; it may render a certain occurrence probable or improbable, may substantiate or disprove the correctness of certain opinions or explanations, but cannot invalidate the evidence of positive facts.

"In the *second place*, we may try to ascertain whether examination of the dead body shows the morbid conditions of the os uteri which have been described to be frequent or rare, slight or extensive; and we may also endeavor to make out what connection subsists between ulceration of the mucous membrane of the os and cervix uteri, and other changes in the tissue of the organ.

"It must, however, be borne in mind that many evidences of disease, such as are very obvious during life, may be greatly obscured, or may even entirely disappear after death: and further, that uterine disorders of the class which we are considering, though exceedingly painful, and seriously interfering with a woman's health and comfort, are yet not of a kind to prove the direct occasion of her death. Evidence derived from this source will therefore be open to the objection that it understates both the frequency and the importance of these diseases.

"We may enquire, in the *third place*, whether there is any condition in which ulceration of the os uteri comes under our notice unconnected with other disease, and with such circumstances as to admit readily of our observing its characters and watching its course and consequences. Such a state of things presents itself to us often in the case of the procident uterus, since the irritation to which the displaced organ is unavoidably exposed has the almost invariable effect of producing ulceration of the surface of the os uteri, and of the immediately adjacent parts of the organ.

"But, whatever conclusions we may deduce from this source are open to all the objections inseparable from analogical reasoning. The probabilities of certain occurrences taking place in the uterus under other circumstances may be increased or weakened; but the evidence still falls short of absolute proof, either of the affirmative or of the negative of the question.

"The *fourth* and most important enquiry of all concerns the frequency of these ulcerations of the os uteri under those circumstances in which they ordinarily come under our notice, and call, or are supposed to call, for our interference. This enquiry, however, must include not only the frequency of ulceration, but also the conditions generally associated with it, and the symptoms to which it commonly gives rise. If the alleged symptoms of ulceration are found to be not rarely present without ulceration, and if

ulceration is discovered even where there are no symptoms; or if, in the same case, the ulceration may vary in extent, with no corresponding change in the symptoms; if an indurated state of the cervix exists without, ulceration and ulceration even of long standing, without induration,—the conclusion, especially if supported by the answers obtained to our previous enquiries, seems to me irresistible that the importance of inflammation of the cervix and of ulceration of the os uteri has been overstated; that they are not the cause of all the symptoms which they have been alleged to occasion, and that, in the treatment of uterine disease, many other considerations must influence us more than the mere removal of ulceration of the orifice of the womb."

Such is the ground which Dr. WEST proposes to travel over and the different lines of argument he intends to pursue in his attack upon the cervical doctrine, and it will be my task to follow in his footsteps and report, as impartially as I can, the progress of his arms.

His first argument is drawn from what anatomy and physiology teach us of the uterus and its functions, and is a regular attempt to exalt the body and degrade the neck of the organ. He had before, as we have seen, tried to ignore inflammation or merge it in trifling abrasion, and now he thrusts at the seat itself of this unimportant lesion, with the design to throw it entirely into the shade. With this view, he brings out in full relief, the richer vascularity and higher vitality of the body of the womb, compared with the neck. It is from the congested lining membrane of the body of the womb that the menstrual flux is poured out; it is the body of the womb, which first and chiefly enlarges during pregnancy; it is the mucous membrane which is metamorphosed into the decidua and which is detached and reproduced again and again after delivery. And while the corpus uteri is the theater of these wondrous operations, the cervix is comparatively passive; it has no part in menstruation; its follicles secrete a little mucus during pregnancy, and when delivery is over, its stretched mucous membrane resumes once more its former plicated arrangement. Dr. WEST concludes the parallel by declaring that "the cervix is less sensitive than the body of the uterus; the sound which passes along the canal of the former almost unfelt, generally finds the lining of the uterine cavity acutely sensitive. The cervical canal has been forcibly dilated, it has been incised; the tissue of the

cervix has been burnt with the strongest caustics, or with the actual cautery, or portions of it have been removed by the knife, generally with no injurious consequence; often with so slight a degree of constitutional disturbance, or even of local suffering, as to surprise those who advocate, little less than those who condemn such proceedings."

Having thus sunk the cervix to zero in the anatomical and physiological scale, Dr. WEST has no difficulty in drawing the proper conclusion, which is as follows:—"It certainly does appear to me that the assumption that some slight abrasion of the mucous membrane covering this part is capable of causing a list of ills so formidable as are attributed to it, ought to rest for its support upon some other and stronger foundation than any inference fairly deducible from anatomical or physiological data."

It is essential to a correct understanding of the matters in controversy and, indeed, to right views of uterine physiology and pathology in general, that the cervix uteri be rescued from the degradation into which Dr. WEST has sought to plunge it. In order to this, it is necessary to consider, *first*, its structure and dimensions, compared with those of the body; *secondly*, its offices, as a co-operator with the body, in the special functions of menstruation and parturition; and *thirdly*, the kind and degree of sensibility with which it is endowed and its sympathetic influences compared with those of the body.

First. The structure and dimensions of the cervix. All the essential anatomical elements that enter into the composition of the body are found likewise in the cervix. It is invested by a peritoneal covering excepting its anterior face, where it is brought into closer companionship with the bladder by reason of its nudity. This closer proximity and the cellular liens that tie it to its urinary neighbor, give to it the power of annoyance and of compelling sympathy with it in its maladies. Hence, the frequent and sometimes painful micturition, almost invariably complained of in cervical inflammation; symptoms, which not unfrequently decoy the physician from the right path of investigation in female ailments. The cervix has a muscular coat like that of the body, which differs only in the greater compactness of its fibers, giving it greater density of structure. These fibers, upon the internal

surface of the neck, have a peculiar arrangement, denominated the *arbor vitæ* and contrast strikingly with the internal surface of the body, and this peculiarity, whatever may be its advantages serves to shelter inflammation when it lurks among its branches.

Again: So much of the cervix as projects into the vagina, viz: the os uteri, is covered by mucous membrane, reflected upon it from the vagina and continued, thorough its external orifice, into its canal,—the whole length of which it lines to the internal orifice. The investing portion of this membrane is as vascular as that of the vagina and not inferior, in this respect, to the mucous membrane of the body, while the lining portion of it is not devoid of blood vessels, though it be not quite so vascular. Throughout the whole of its extent, this mucous membrane is bountifully supplied with follicles, which are especially numerous and large in the cervical canal. Besides these anatomical elements, which it possesses in common with the body, the sub-vaginal portion of the cervix, (the os uteri) according to a late French writer, Dr. FORGET,* receives a layer of *erectile tissue*, which is reflected upon its external surface from the vagina, being a continuation of the erectile coat of the vagina, in the same manner as the mucous membrane of the os uteri is a continuation of the mucous coat of the vagina. In this respect, the os uteri resembles the glans penis, which is constituted, in larger part, of the spongy portion of the urethra expanded upon it. The muscular element of the uterine neck is immediately subjacent to this cortical envelope, as it is called by Dr. FORGET. This analogy of structure in two organs, between which there is such great intimacy of functional relations, is a very interesting fact, should it be confirmed by other anatomists. It affords a more satisfactory explanation, as the same writer has said, of an occurrence sometimes met with in obstetric practice, than the generally received account of the anatomy of the os uteri. The occurrence referred to is an oedematous tumefaction of the free edge of the uterine orifice, at the time of its greatest dilatation during labor, which every one, much employed in this branch of practice, must have observed, and a very remarkable instance of which I have lately

* *Etude Pratique et Philosophique du col de la Matrice*, Paris, 1849.

met with. Such a swelling, occurring suddenly and disappearing promptly after delivery, may be better comprehended, supposing its seat to be areolar and erectile spongy tissue, than it can be, if the interstices of the muscular fibers, distended and flattened to the utmost degree, are supposed to be occupied by it.

Dr. West's sneering allusion to the cervix, on account of its diminutiveness, has been already noticed, and from it the uninformed might suppose that the neck really is but a very small portion of the uterus. To see how this matter stands, let us refer to the admirable and standard work of Madam BOIVIN and DUGES* for the dimensions of the entire organ and those of its parts, body and neck. They give, as the total length of a virgin adult uterus, accurately measured, 26 lines, of which *exactly one-half* belonged to the neck; width of the fundus, 17 lines; thickness of the fundus, $8\frac{1}{2}$ lines; width of the neck, $9\frac{1}{2}$ lines; thickness of the neck, 7 lines;—from which it will be observed, that the neck is equal to the body in length, and is nearly equal in thickness, but is, of course, narrower across, else it could not be a neck. As to the thickness of their parietes, there is but little difference between the body and neck. Childbearing produces notable changes in the condition of the womb, among which not the least remarkable is the predominance the body acquires over the neck: still the neck is not reduced to insignificant dimensions, for the same authors inform us that while the length of the body is 2 inches, that of the neck is 13 to 15 lines, the other dimensions of the two portions being about equally increased, so that the body's relative gain is only in length.

Secondly. We have to consider the special office of the cervix relatively to menstruation and parturition. In both of these functions, the product to be eliminated is prepared in the cavity of the body, and extruded from it by the contraction of its parietes, the cervical canal being its excretory duct. The healthful performance of both these functions depends, therefore, more than is generally imagined, upon the state of the cervix. If its canal be contracted in any part of its course, whether from malformation or disease, the uterine excretion is rendered difficult, and more pow-

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erful expulsive efforts, on the part of the body, are necessitated. To be convinced that this is no exaggerated representation, let us consider these functions for a moment or two. In regard to menstruation, it is now well ascertained by actual observation that the sanguineous part of the discharge exudes from the internal surface of the cavity of the body, and issues slowly through the external orifice into the vagina, where it mingles with the vaginal mucus. Even in the most perfectly healthy condition of the organ, it may be presumed that the fluid is expelled by the contractions of the parietes of the body. Such expulsive efforts, however, are so gentle as to excite no pain and attract no notice. Be this as it may, we have satisfactory evidence that, in morbid states of the function, in dysmenorrhea for example,—obstruction of the cervical canal, may, by rendering the excretion difficult, excite violent, painful, and even spasmodic contractions of the uterine body. It is not to be denied that dysmenorrhea may be attributed to inflammatory action in the body, particularly when membranous and organized substances are discharged; but it is not less questionable that it may be produced by such a purely mechanical cause as the small size of the os uteri, congenital or acquired, contraction of its internal orifice, or diminished caliber of the canal, from inflammation of the substance of the cervix. The interesting cases related by Dr. MACKINTOSH,† which were treated successfully by dilatation with metallic bougies, of different sizes, establish this fact beyond all reasonable doubt. I refer you to his chapter on Dysmenorrhea for the details of these cases, and others might be cited were it necessary. These cervical obstructions, when of long continuance, by exciting such preternatural contractions of the body, at each returning menstrual period, may cause hypertrophy of its walls and inflammation of its lining membrane, in the same way as stricture of the urethra gives rise to these pathological lesions in the bladder.

Again. Spasmodic contraction of the fibers of the cervical canal, during a healthy menstrual flux, may suddenly arrest the flow and cause the menstrual fluid to be retained in the cavity of the body until the next period or for a still longer time. This is

† *Principles of Pathology and Practice of Medicine.*

one of the obstacles to menstruation, resulting in retention, recognized by Dr. BERNUTZ, in a series of highly interesting articles, entitled "*Mémoire sur les Accidents produits par la Retention du Flux Menstruel.*"* The minute recital of several cases, which he has given under this head, leaves no room to doubt that when menstruation is suddenly suppressed during the flow, by exposure to cold or any other cause, it is not always because there is an arrest of the sanguineous exhalation, for this may continue, but because spasm of the excretory canal—the cervix—precludes its escape and compels it to accumulate in the cavity of the body. Some of the facts of these cases, which admit of no other interpretation, may be mentioned here. The sudden stoppage of the discharge is immediately followed by violent pain in the region of the uterus, succeeded by swelling and tenderness. The discharge may not make its appearance at the next period when it is due, but several periods may elapse, and when it is restored, it is accompanied by violent pains, resembling those of labor. The discharge is also more copious, amounting sometimes to hemorrhage, consisting in part of coagula, the first that escape being of a dark color like blood that has been long extravasated.

The important part played by the cervix in the function of parturition is more familiar to the profession, because it obtrudes itself upon our notice in a more palpable manner and presents unmistakable credentials of its active participation. In every instance of childbirth, it opposes some resistance to the contractions of the body, while in some cases, fortunately rare, it is so rigid and unyielding as greatly to protract and exacerbate the sufferings of parturition. Nor must we omit to mention here that the os uteri is not unfrequently lacerated, to a slight extent, in giving passage to the child, and these lacerations, together with the contusion to which it is subjected, often lay the foundation for inflammatory mischief. All who are practically conversant with female diseases, know that many cases of inflammation of the cervix can be traced back to the date of the patient's accouchment,—the characteristic symptoms of the affection being complained of when she first attempted to resume her ordinary occupation.

* *Archives Générales de Médecine*, 4th series, tome xvii, xviii, xix.

In the third place, in order to do justice to the uterine neck, we are to inquire into its relative sensibility and its sympathetic reaction upon other organs.

All anatomical authors agree that the uterus is abundantly supplied with nerves, derived from the great sympathetic, through the hypogastric plexuses, and that, intermingled with these, are branches of the sacral nerves, arising from the spinal cord. It is, therefore, endowed with ganglionic and cerebro-spinal nerves, or, as they are often designated, nerves of organic and animal life. Most writers, whose authority on such subjects stands deservedly high, such as TIEDEMAN, LEE, MOREAU, VELPEAU, &c., represent that both portions of the organ, body and cervix, are alike supplied with these two orders of nerves, while, in reference to the cervix, M. JOBERT maintains that its superior portion, viz: that which is above the vaginal attachment, receives only organic nerves, and that the subvaginal portion (*os uteri*) is completely destitute of nervous filaments of any kind, and is absolutely insensible! Between M. VELPEAU, who declares that cerebro-spinal nerves are detached from the hypogastric plexuses to be distributed to the neck of the uterus, especially to the *os*, and M. JOBERT, I cannot pretend to decide on anatomical grounds, for I have never attempted to unravel this knotty point by a minute dissection. I know enough of the anatomy of the uterus, however, to be satisfied that it must be exceedingly difficult to distinguish between numerous delicate filaments, coming from a common plexus, and determine which are organic and which animal, or to trace them, with the scalpel, in their tortuous distribution through the tangle of closely complicated fibers, composing the muscular coat of the organ. I have but little faith in the dissection of any anatomist on such a point, and none at all when its results are contradictory of clinical observation. What evidence more conclusive of the possession of nerves can be given by any organ or tissue than the exhibition of sensibility under the application of tests calculated to elicit it? Tried by this method of proof, what answer does the *os uteri* return to our inquiries concerning its sensibility? Can it be cut or excised, lacerated or burnt, without feeling, and without exciting any sympathetic reaction in other organs of the sys-

tem? Let facts reply to this question. The celebrated French surgeon, LISFRANC, amputated the vaginal portion of the neck, in a large number of cases of uterine disease, and we are informed by one of his pupils, Dr. FORGET, that he was accustomed, in the midst of the operation, to interrogate his patients as to the nature of the sensation they experienced. From such inquiries he learned that the pain felt by a majority of them was not acute, but they all complained of *some unusual and disagreeable sensation*: with some, it was that of a very hot iron passing over the depth of the sexual parts; with others, it was a sort of setting on edge, (*agacement*) difficult to express but profoundly felt; with a certain number, it was a genuine uterine colic, of moderate intensity. The conclusion to which the surgeon of *la Pitié* came, as the result of his numerous inquiries, was, that if the os uteri showed but little sensibility to cutting, it is much more sensitive to pressure, resembling the testicle in respect to its mode of sensibility.

With regard to the application of caustics to the os uteri, my own experience warrants me in speaking positively, and I do not hesitate to affirm that, whether the nitrate of silver, the acid nitrate of mercury, or the potassa cum calce be used, more or less pain is immediately felt, and continues to be complained of during the succeeding twenty-four hours. The pain is sometimes exceedingly violent, in the form of uterine spasms, requiring large doses of laudanum or morphia, with brandy and hot applications, for its subdual. It is worthy of remark that the pain, excited by topical applications to the os uteri, is often only an exacerbation of the sacral, iliac, or hypogastric pain, habitually complained of by the patient. I have assured myself of the truth of this assertion, by such repeated and particular inquiries, that there can be no mistake as to the identity of the pains of inflammation and those of cauterization of the os uteri, which may, I think, be regarded as little less than a demonstration of the precise local source of these pains.

Careful inquiries have satisfied me that the os uteri is sensible to pressure. In examinations by the touch, when the finger is pressed upon its apex, it is scarcely felt by the patient, or it may not be felt at all; but when pressure is made upon either side of

the os, as high up as the vaginal attachment, it is always felt, and if there be inflammation, it is painfully felt, which may be regarded as one of the diagnostic marks of this morbid condition.

Finally. Were there no other evidence of the sensibility of the cervix, carcinoma, limited strictly to this portion of the uterus, affords convincing proof, in the cruel pain which attends its destructive progress, sufficient to put to flight the doubts of a host of anatomists.

It is an opinion, very generally entertained, that the cavity of the body is much more sensitive than that of the neck. It is very positively affirmed by Dr. WEST; and yet it does not at all accord with my own experience. I have often introduced the sound into the uterine cavity to its fundus and have carefully noticed the expression of the patient during the operation. The passage of the sound is not free from pain, either while it is traversing the cavity of the neck or that of the body; the pain is not, however, very acute along the tract of either cavity, and I have not been able to perceive that there is any difference in its degree. Moreover, I have often cauterized both cavities with the nitrate of silver, and sometimes, though rarely and very cautiously, with the potassa cum calce, and have not discovered, by this test, any difference in their sensibility.

If, then, the os and cervix possess the same nervous endowment as the body, there can be no reason to doubt that they share with it the influence which the uterus is known to exert over other organs that sympathize with it; and in proof of this declaration, I may refer to one of the uterine sympathies, which I have, more than once, known to be awakened by irritation of the cervix. In some patients, effected with chronic phlegmasia of the neck, nausea is among the most prominent symptoms complained of, which they declare is like the nausea of early pregnancy. In such cases, firm pressure with the finger upon the cervix or the application of caustic may immediately excite nausea, just as the same treatment revives and aggravates the sympathetic pains attendant upon cervical inflammation.

The statements and facts, which have now been produced, are sufficient, I think, to blunt the edge of the argument from anat-

omy and physiology, as urged by Dr. WEST against the importance of the cervix in uterine pathology. Let us now try whether or not his second argument consists of better metal. The argument, it will be remembered, is deduced from morbid anatomy, being the result of *post mortem* investigations to ascertain whether pathological conditions of the os uteri are frequent or rare, slight or extensive. In the outset of his remarks on this branch of the subject, Dr. WEST observes: "It seems somewhat strange that those who believe in the frequency and importance of ulceration of the os uteri, have made no attempt to demonstrate those facts by examination of the body after death; while the only persons who have appealed to its results, allege this condition to be very rare and very trivial." This is truly a curious bewilderment of our Croonian lecturer. To me it appears the most natural thing in the world, that those who have abundance of *living* evidence should refrain from seeking corroboration of it among the dead. Why does it not seem equally strange to Dr. WEST that no *post mortem* evidence is sought for or deemed necessary in cutaneous inflammation or ulceration? The cases are precisely on a par; it is as easy to learn by the speculum whether or not there is inflammation or ulceration of the os uteri, as it is by direct inspection to satisfy ourselves whether or not the skin is the seat of these morbid conditions. In either case, all examination of the dead body to determine the simple question of the existence of ulceration would be not only supererogatory, but ridiculous. But notwithstanding my inability to comprehend the necessity or utility of this branch of his investigations, I am not loth to accompany Dr. WEST and listen to the voices of the dead, in response to his gratuitous interrogatories.

Previous researches of this kind appeared to authorize the conclusion that ulceration of the os uteri is of very rare occurrence,—M. LAIR, for example, quoted by Dr. WEST, having met with it but 12 times in 500 examinations, and M. PICHARD 5 times in 300. Dr. WEST, however, objects to these examinations, and also those made in England, that they were carelessly made, and without the least information as to when, where and how, or as to the age of any of the subjects. The latter omission he regarded as a capital defect, and charges that in his own country there has

been such total want of discrimination that "conclusions have been drawn from the examination alike of the infant of a few weeks old and of the old woman of seventy." If his countrymen have pressed babies into service, in these investigations, they have, indeed, been less discriminating than they usually are; but I do not clearly perceive the propriety of selecting subjects exclusively from females during the child-bearing period of life, as Dr. WEST has done, for although it may be true that the period of greatest functional activity is also that of the greatest liability to diseases of the sexual organs, it cannot be pretended that these organs are absolutely exempt, at an earlier or later period, from such pathological lesions as are common to all others.

Dr. West's observations amount to only 62, but he hopes that the care with which they were made will compensate to some extent for the smallness of their number, and the uteri were taken from patients who died in the medical wards of St. Bartholomew's Hospital of other than uterine disease. "Of the total number," he informs us, "13 were above forty-five years of age, the remaining 49 between the years of fifteen and forty-five. Concerning all of the former class and 30 of the latter, making a total of 43, it was either known with certainty, or concluded with great probability, that they were married or had had sexual intercourse; the remaining 19 were believed to be virgins."

The general results of the examination of the uterus in these cases are given by Dr. WEST in tabular form, which is subjoined.

TABLE,

Showing the chief results of the examination of 62 uteri:—

In commenting on this table, Dr. WEST observes that there is something "at first" not a little startling in its disclosures, showing, as it does, that the womb was found in a diseased condition in nearly one-half of these women, none of whom died of uterine disease. But he is startled only for a moment, for it soon occurs to him that some of these morbid appearances may be of little moment, "and," says he, putting on his philosophical glasses, "the very frequency of their occurrence, instead of substantiating the opinion that they are of great importance, rather militates against that supposition. When ulceration of the os uteri was first observed, it was natural enough to attribute to it many symptoms, and to refer to its influence many structural changes. But what if such ulceration be found to be usually very limited in extent, and *so superficial* as to be unassociated with changes in the basement membrane of the affected surface, and exercising so little influence on the state of the uterus in general, as to be unconnected in a large number of instances with changes either in the interior of the womb, or in its substance; while induration of the uterine tissue and disease of the lining membrane of the womb are found independent of it, or of each other? Should such appear to be the case, it will, I think, be rendered in the highest degree probable that *this abrasion* of the os uteri has not the long train of sequences which have been supposed to follow it, but that it is of comparatively small pathological import; that it may be found to vary under the influence of comparatively trifling causes; and not unfrequently to be *dependent* on functional disorder of the uterus, just as the mucous membrane of the tongue and mouth betrays the disturbance of the digestive system; that it may, in short, be the consequence, and sometimes the index, but rarely the occasion, of the ailments with which it is associated."

Dr. WEST concludes his first lecture with a more minute description of the morbid or pseudo-morbid appearances of the uterus, in these cases, and an attempt to determine their relations to one another, especially that of induration to ulceration, between which, he thinks, there exists no necessary connection, as the former may exist without the latter. Instead of engaging at present in a controversy with him on this point, the determination of

which is of no particular consequence, and is, perhaps, impossible, at present, for want of sufficient data, I prefer to adhere to the matter more immediately in hand, namely: to inquire what light morbid anatomy has shed on the naked question of the frequency, merely, of ulceration of the os uteri.

To assist in solving this question, I shall be under the necessity of calling upon Dr. ROBERT LEE to depose, and if his testimony shall be found contradictory to that of Dr. WEST, there is no fear of hostile collision, for they are, doubtless, good friends, and have joined heart and hand to accomplish the same object, viz: *to abolish ulceration of the os uteri, and with it the speculum uteri.* The tendency of Dr. WEST's performance is obvious enough, but he is careful to display no hostility to the speculum, any where in his lectures; the conclusion to which the reader, drifted in his current, is, however, inevitably conducted, is, that if ulceration be such a trivial affection, and plenty, withal, as blackberries, there is no need of the speculum to detect or cure it.

Dr. LEE is not so wily an adversary: he openly avows his aims and denounces, in no measured terms, the speculum, in most of the uses to which it has been applied.

Dr. Robert Lee on the witness-stand. At a meeting of the Royal Medical and Chirurgical Society, Tuesday, May 28th, 1850,—the rooms being unusually crowded with fellows and visitors, a paper was read by Dr. ROBERT LEE, on the use of the speculum, in which *post mortem* statistics, quite imposing by their grandeur, are brought forward to prove that there is hardly such a disease as simple ulceration of the os uteri, which, we are informed, accords also with Dr. LEE's experience in the living, he having met with a considerable number of cases in which it had been affirmed by others to exist, after deliberate and repeated examination by them with the speculum, where he ascertained that ulceration did not exist in the os and cervix uteri, nor disease of any kind. But to the autopsic testimony:

“In the year 1832,” he says, “my colleagues at the St. Mary-lebone Infirmary,—Dr. Hone, Dr. Sims, Mr. Stafford, and Mr. Perry, late secretary of the Society,—at my request, desired that the uteri of all the women who died in the wards should be carefully examined, and that they should be preserved for my inspection when any morbid appearance was observed. From 1017

post-mortem examinations of females of all ages, made by Dr. Boyd, (after deducting those of children and others, in which special mention is not made of the uterus.) there were found 708 where either the state or weight of the uterus was noted. In thirteen of these there was congestion or inflammation, which had no specific character, and in some the inflammation was limited to the fundus, and could not have been detected unless the uterus had been removed or cut open. In at least three there were enlargement and induration, which did not appear to have any specific character, and in two there was extreme wasting; twenty-four were puerperal cases, thirteen dropsy of the ovaries or Fallopian tubes, in thirty-one fibrous or bony tumors, and in twenty-one, cancer." "My impression is," adds Dr. Boyd, in the same report, "that ulceration of the neck or mouth of the womb is an exceedingly rare disease, else I must," he says, "have observed it, having cut up and weighed many hundreds; it could scarcely have escaped my notice."

"Dr. Allen, the present resident medical officer at the St. Marylebone Infirmary, has held the office about twelve years, and he states to me that he has examined, or been present at, the examination of the bodies of more than 1000 adult females, and of these he does not believe that he ever saw more than twenty examples of ulceration of the os uteri of any kind, scrofulous or venereal, excluding cases of ulcerated cancer of the uterus, which were known to exist before death. Dr. Allen further states, that he has observed in some cases a portion of the mucous membrane of one lip slightly abraded; this he has seen occasionally, but not often. Mr. Prescott Hewett was six years curator of the Museum of St. George's Hospital, and conducted all the post-mortem examinations. He states, that during that time he could not have examined fewer than 600 uteri, and very seldom, if ever, did he meet with anything which could be called ulceration of the os and cervix uteri, independently of scrofula and cancer. Mr. George Pollock held the same office for three years, during which time he examined the bodies of 300 women, and in every case the uterus was cut open and examined. In four cases uterine ulceration was observed, but three of these were scrofulous patients, and scrofulous ulceration existed in other organs. In the fourth case the ulceration must have been cancerous, as it involved the vagina extensively, as well as the os uteri. Mr. Hewett and Mr. Pollock did not, therefore, observe a single example of simple ulceration of the os and cervix uteri in the 900 uteri they examined, which confirms the accuracy of the opinion given by Dr. Boyd, that ulceration of the neck or mouth of the womb is a very rare disease. Mr. Gray succeeded Mr. Pollock at St. George's Hospital, and he examined 180 uteri. Distinct ulceration of the os and cervix was only observed by him in three uteri, and the nature of the ulcer-

tion in these three cases was not determined with certainty. Mr. Gray states to me, further, that redness, slight abrasions, and granulations, were sometimes, but not frequently, observed."

From this extract, it will be perceived that none but the bodies of adult females were examined in reference to the point in controversy, and notwithstanding that there must have been among them many belonging to the fruitful period of life, inflammation or ulceration of the os uteri was found in but a small proportion of them, proving the remarkable immunity of the os uteri from such affections. How are we to reconcile this discrepancy between Dr. LEE and Dr. WEST? How, but by supposing that each found what he sought, and what he judged would be most effective in arresting the progress of the speculum. Prejudice is proverbially blinding in its influence, and under its dominion Dr. LEE and those who saw for him may not have seen what was plainly before their eyes; but it may likewise sharpen the sight, as is the case of Dr. WEST, and enable it to see what is hid from others. We may, however, without perplexing ourselves for a rationale, leave the difficulty to be adjusted between them, content with drawing an inference, which is irresistible, viz: that *post-mortem* evidence, thus far, is neutralized by its contradictions, and therefore, even were it admissible in this controversy, it must, in all fairness, be rejected.

LECTURE II.

THE first lecture, which I had the pleasure to deliver in answer to the first of Dr. WEST's Croonian course on ulceration of the Os Uteri, was intended to counteract any unfavorable impression which his disparagement of the cervix, as a portion of the uterus, might make upon the mind of a candid inquirer and also to demur against a resort to *post-mortem* examination as wholly gratuitous. The contradictory and suicidal nature of the testimony, gathered from this source, was likewise pointed out.

Believing that his subsequent lectures are not less sophistical and therefore opposed to the simplicity of truth, I propose to follow him, step by step, and correct the aberrations to which he is, as we have seen, but too prone. In the exordium of his second lecture, Dr. WEST, with the transparent candor for which I have already given him proper credit, reminds Mr. PRESIDENT that the facts and considerations which he had the honor to submit in his first lecture, were not brought forward as conclusive but as elucidatory of the question; he nevertheless insinuates that they seemed to raise a presumption against rather than in favor of the opinion that inflammation of the cervix and ulceration of the orifice of the uterus are conditions of great pathological importance! In this he displays a degree of philosophical humility above all praise, for had he succeeded in proving, as undoubtedly he believed, that the neck is nothing and that it is very frequently beset with nothings, in the shape of superficial ulcerations, I submit that his work was accomplished and his warfare ended. What need of two more lectures to exult over a fallen foe? Its life ought at least to have been spared to grace the triumphal procession of his subsequent lectures.

Considering that the complex character of disease offers one great impediment to our thoroughly understanding it, Dr. WEST was induced to propose that we should, if possible, study:—

"As the *third point* in this enquiry, ulceration of the os uteri, under some condition in which it presents itself to our notice unconnected with other disease, and with such circumstances as to admit readily of our observing its characters, and noting its course and consequences."

Dr. WEST finds all these conditions for the study of ulceration, its symptoms and effects, its progress and consequences, uncomplicated by any other disease whatever, in cases of prolapsion of the uterus beyond the external parts, where moreover it can be easily inspected. Is prolapsus, then, not a disease? Supposing such a displacement to be not accompanied by inflammation or engorgement (which, however, is rare), is the lesion of situation nothing? It and its kindred affections, retroversion, anteversion, inversion, &c., have usually been regarded as such deviations from the normal state as to have found a place in Treatises on the Diseases of Females. So far from presenting a state of case in which ulceration of the os uteri can be abstractly studied, it does certainly seem to me that procidentia uteri greatly complicates the problem and makes it very difficult to determine what is to be attributed to the unnatural position of the organ and what to ulceration of its orifice.

In cases of complete prolapsion, the inverted vagina furnishes an investment to the misplaced organ, and its lining membrane gradually assumes the characters of ordinary integument, while the lips of the os uteri retain their original delicate structure and are, according to Dr. WEST, permanently in a state of abrasion or superficial ulceration. The inverted vagina is also implicated, and the ulcers upon it are apt to become deep and excavated, with raised and callous edges, exactly resembling chronic ulcers of the skin of other parts of the body.

And now for the study of these abrasions, which the, as he would persuade us, immaterial accident of procidentia has luckily thrown in our way, and we must take Dr. WEST for our guide, as such cases are by no means so common with us as he reports them to be in England:—

"The abrasions of the os, however, after weeks or months still retain much the same characters as they originally presented. They extend, indeed, at one time over a larger extent of surface than they occupy at another; but they very rarely increase in depth, or extend into the subjacent tissue. The ulcerated surface

is denuded of epithelium; now and then it is partially covered by a thin layer of yellowish lymph, but usually it is of a rather vivid red color, and of a granular appearance. This granular character is generally more marked in proportion to the age of the ulceration; while in a few instances the granulations are distinct from each other, rather elongated in form, and look exactly like hypertrophied papillæ. A transparent albuminous secretion in general covers the ulcerated surface, and is sometimes poured out freely from it; but there is seldom any abundant discharge from the inferior of the uterus, or even from the canal of the cervix."

Nor does the existence of prolapsus, complicated with such ulceration as he describes, incapacitate the uterus for the performance of all its functions, even the highest, provided it be retained in the cavity of the pelvis by some mechanical contrivance. Conception may readily take place and pregnancy and parturition be gone through with as formerly, with little or no additional suffering.

Of all the shifts and subterfuges resorted to by Dr. WEST to maintain his position, this, afforded by the procident uterus, appears to me the least tenable. It is manifest to the most superficial thinker that the abrasions of the os uteri and the deep ulcers of the vagina may be nothing more than the consequences of friction and the irritation necessarily caused by the dribbling of urine over the mucous surfaces. Abrasions and ulcers, produced by such purely mechanical causes, although perpetuated for an indefinite length of time, are never more than trivial local affections, and instead of increasing may be expected to diminish, as the parts become accustomed to such exposure. They are not, pathologically speaking, genuine phlegmasia and are incapable of giving rise to grave symptoms or of involving the deeper-seated tissues in the results of veritable inflammatory action. They may be good exemplars of Dr. WEST's idea of cervical inflammation and its sequences, but every practical observer must recognize a wide difference.

But allowing, for the nonce, that these urinous abrasions and exulcerations are models of the disease in controversy, we must not, in trying to estimate their value, lose sight of the comparative insensibility and diminished influence of the uterus, consequent on its exoteric position. While it is *in situ*, inflammation of the neck or incipient prolapsus may affect the bladder and rectum,

teasing them by traction or involving them in inflammation or a high degree of irritation. Hence, dysuria and tenesmus are among the most common symptoms of cervical inflammation. It is easy to conceive what an amount of morbid influence may thus be radiated from the pelvic viscera, deranging the functions of other organs in sympathy with them. But let the uterus achieve its fall, drawing the vagina along with itself and converting it into a hernial sac, with an almost cutaneous envelope, into which the ovaria and tubes, the bladder and part of the rectum and some convolutions of the small intestine are received,—it and they soon become accomodated to their novel situation, all strain is taken off from its supports that had been hitherto kept tense by their resistance, and a notable mitigation of the most distressing symptoms ensues. Dr. BLUNDELL does but repeat what must be familiar to all, when he says: “In procidentia of the uterus, it is remarkable that the health of the patient often suffers very little. Indeed it has been often observed, with truth, that the general health is often much worse in those cases in which there is a mere relaxation, than in those cases of procidentia which we have just been considering; in which the vagina and uterus lie forth under view.”*

From this consideration, it is manifest that even supposing the abrasions of the procident uterus to be of the same nature as those of the organ *in situ*, they are comparatively innocuous, and that, therefore, any conclusions drawn from one are not logically applicable to the other, unless it can be shown that like effects are to be expected from like causes under dissimilar conditions.

We have at length arrived at the fourth and most important part of this inquiry, which is to ascertain “what clinical observation generally teaches us concerning ulceration of the os uteri, its course, its symptoms, and its importance.” In approaching this question, as Dr. WEST declares we are bound to do with no conscious bias of the mind in one or the other direction, three different probabilities suggest themselves to us, of which any one may be correct.

“1st. Ulceration of the os uteri may be the cause of all the

* *Principles and Practice of Obstetric Medicine*, London, p. 700.

symptoms of uterine disease which have been attributed to it; and consequently it may be of no less importance to remove it when present, than to ascertain the fact of its existence.

" 2nd. Though not in itself the cause of the symptoms, or at least of the greater part of them, it may yet be the concomitant of certain forms of uterine disease; of the state and progress of which its extent and degree may be a trustworthy index. In this case, though of small importance as far as therapeutical proceedings are concerned, it may yet be of great semiological value.

" 3rd. Neither the one or the other of these suppositions may be correct; but either the ulceration may exist alone, giving rise in that case to few symptoms, or to none at all; or it may, in other instances, complicate different uterine ailments, though not an index of their state, nor varying with their changes."

Considering that, in the opinion of some writers, so large a proportion as eighty-one per cent. of all women presenting symptoms of uterine ailment, are suffering from inflammatory disease of the tissue or canal of the cervix, and 70·4 per cent. likewise from ulceration of the *os uteri*, Dr. WEST thinks the inquiry may be very briefly disposed of,—for the evidence in support of such a view must, he alleges, be overwhelming, the symptoms of ulceration of the *os uteri* must be characteristic, either from their peculiarity or severity, or from both together, and must differ, in important respects, from such as attend upon those uterine ailments which are not associated with that condition. Here is a string of propositions, stated in the language of Dr. WEST himself, upon which his subsequent reasoning turns and from which his eventual conclusion is deduced, and yet these propositions or premises are not only not proved but wholly gratuitous and unfounded.

When, in investigating the pathological state of the womb, we discover, by tactile and ocular proof, that there is inflammation of the cervix and are not able to detect any other lesion of the organ or its appendages, why should we refuse to allow this morbid condition of the cervix to be the *causa symptomatorum* unless its vouchers are *overwhelming*? Shall inflammation of the *corpus uteri* or no appreciable lesion of any kind be entitled to rank as a cause of uterine symptoms upon evidence less irresistible? It is easy to discover, in such rigorous exactions of the cervix, the influence of the bias deprecated by Dr. WEST, but which has, nevertheless, so possessed him that it cannot be exorcised.

His second assumption demands that the symptoms of ulcera-

tion of the os uteri shall be characteristic and differ materially from those of all other uterine ailments,—a hard requisition and one with which it may not be possible for the symptoms of any uterine disease to comply. There is not a disease of the uterus, whether it be inflammation of the body or neck, polypus, fibrous tumor or even cancer, prolapsus, inversion, anteversion or retroversion, which is always accompanied with characteristic symptoms, such as serve to diagnose it without physical examination. Dr. SIMPSON, the renowned Professor of Midwifery in the University of Edinburgh, in his "Contributions to the Pathology and Treatment of Diseases of the Uterus,"* lays it down as his first proposition that, "*The general and local functional symptoms of disease of the uterus are such as enable us to localize, without enabling us to specialize, the exact affection of the organ.*"

He illustrates and establishes the truth of this proposition, which does but embody the experience of all men and all time, by referring to the dissimilar effects of pregnancy, in different cases, and to the different phenomena of uterine disease, excited by the same specific affection of the organ, while, on the contrary, "*the same specific phenomena frequently result from affections of the organ, that are entirely at variance with each other, in their pathological character, in their course, and in their treatment.*"

To instance some of these diseases. Scirrhous degeneration of the cervix uteri sometimes gives rise, at an early period of its progress, to severe pains in the uterine region and marked constitutional derangement. In other cases, which have come under my own observation, it pursues its course without pain and with such slight disorder of the uterine functions, including, as Dr. WEST would say, the highest, as to escape the notice of patient and physician, until its destructive ravages are well nigh completed. "While," as Prof. SIMPSON remarks, "*we thus not unfrequently find the most malignant organic diseases of the uterus more or less latent or masked in their symptoms, we have, on the other hand, sometimes the most severe local and constitutional symptoms of uterine disease developed in instances of slight and remediable organic affections of the part, as in cases of simple ulceration and*

* London and Edinburgh Monthly Journal.

granular inflammation of the cervix ; and these symptoms may be all present in their most aggravated forms for months and even for years, when the local examination and final result show us that there is no organic disease whatever as in cases of "irritable uterus" or hysteralgia. Indeed, in some females, we have all these symptoms strongly but temporarily excited at every recurrence of the catamenial discharge, in connection merely with that congestive and increased vital activity of the organ which accompanies its natural menstrual secretion."

There is a certain group of sufficiently well-defined symptoms, such as *pain in the sacral, pubic or iliac regions*, mostly dull but occasionally acute and paroxysmal, like parturient pains ; *heat or burning* in these same regions ; *sense of fullness and weight* within the pelvis ; *bearing down* ; *hemorrhagic and leucorrhæal discharges* ; *deranged menstruation* ; *painful coition* ; and *frequently recurring abortion*,—which point plainly enough to the uterus as the seat of disease of some kind, but none of them nor all of them, in any combination, infallibly indicates the special morbid affection, which may only be revealed by physical exploration.

But although the terms of its admission into the nosological nomenclature are hard and unreasonable, it may safely be affirmed that inflammation and ulceration of the cervix can approximate more nearly to them than any other uterine affection, its symptoms being better marked, and sometimes, indeed, quite pathognomonic, as will be presently shown.

From these considerations, it undeniably follows that to require inflammation of the cervix to exhibit as its credentials, peculiar and sharply-defined symptoms, such as are not observed in any other uterine disease, or submit to be expunged from the record of this class of maladies, is an infringement of its rights, against which those charged with protecting them are bound to protest.

We are justified, by every principle of sound reasoning, in maintaining that if other lesions may derange the uterine functions and affect the general health, so may it, and that, if no other lesion can be detected, after the most sedulous examination, to ignore it or estimate it as nothing is a violation alike of sound philosophy and common sense.

When we are led by suspicious symptoms to investigate the condition of the uterus, it is often found that the neck is in a state of chronic inflammation, and no other disease whatever can be discovered, after the most careful and thorough examination. It stands revealed by the speculum in all the vividness and isolation of an ophthalmia and in connection with it some of the symptoms of the uterine category are developed. Notwithstanding that the symptoms themselves may be insufficient to point out this precise local disease, they do, nevertheless, harmonize with it and are such as may be more rationally attributed to it than to any other cause or to no cause at all. To illustrate this remark and at the same time to impress you with the pathological importance of such an affection, though seemingly small, I will offer an admirable description of one form of the malady by the pen of a writer, who had evidently often seen it and diligently studied it. The special form of the affection is chronic inflammation of the *mucous membrane lining the interior of the neck*, and the writer is M. MELIER, in a memoir entitled "*Considerations Pratiques sur le Traitement des Maladies de la Matrice.*.* Inflammation thus seated is regarded by M. MELIER as a veritable catarrh of the part, extending in some cases into the body of the uterus, and is of very common occurrence. The influence which it exercises over the development of other maladies and its ulterior consequences have not, he thinks, been justly appreciated. It may easily be discovered with the speculum, but eludes an investigation by the touch alone. Thus examined, the orifice is perceived to be more or less red, the mucous membrane extending into its cavity appears tumid; thick, viscid, gluey, white mucus, more or less colored and sometimes sanguinolent, is seen flowing or rather adhering, and obstructs the cervical canal, from which it can scarcely be removed by a mop. The orifice itself may be observed in two different states: it may be extremely contracted or very patulous and infundibuliform, from the swelling of its borders. The neck is sometimes tumefied, uneven and indurated; in other cases, it preserves its normal consistence and volume. MELIER adds that he knows not how far the malady is limited to

**Memoires de l' Académie Royale de Médecines*, 1833, Tome Deuxième. p. 330.

the neck, but it is probable that most frequently it extends to the body of the uterus. The patient complains habitually of a dull, deep-seated pain, sometimes of acute suffering, heat and pruritus behind the pubes, which she indicates as the seat of the malady. Changing their ordinary character, these pains may become more violent and resemble those of labor, and after a longer or shorter time, their sudden cessation is announced by a more abundant discharge than is usually present. The menses, more or less painful, are glairy from the admixture of mucus: coition is painful.

Furthermore, the cervical inflammation is represented by M. MELIER as being very chronic, and in its course, in a longer or shorter time, a new pain is complained of in the inguinal or ovarian regions, indicating a tendency to propagation of disease to one or both ovaria. These organs may become involved and then a tumor is discovered in one or both sides, and the pain becomes more acute and persistent. The neck is primarily affected and for a time suffers alone. Subsequently and by the sympathy of continuity, the ovaria participate in its sufferings and take on inflammatory action, which may result in degeneration of their tissues or hypertrophic enlargement. Interrogate the patients, says M. MELIER, and go back to the very beginning: they will tell you that the malady commenced in the hypogastrium, behind the pubes, and extended consecutively to the ilia. This succession—these two stages—were well-marked in a patient whom I am now attending with my learned friend, Dr. S. C. ROCHE. Attacked with a catarrh of the uterine neck, she complained only of this *for one year*, at the expiration of which, the right iliac region was affected, and then there was notable enlargement of the ovary of that side. M. MELIER affirms that he has observed the same march, the same succession in many other cases, and, he doubts not, that much of ovarian disease might be prevented by the detection and cure of the cervical malady. This form of cervical inflammation might, with more propriety, be denominated *Mélier's Malady* than the whole class to which it belongs can be called *the Miller disease*—an honor, though not so intended, which some have conferred on myself, and my only regret is that I am not worthy of it.

MELIER's malady is often overlooked. Too many are apt to confine their examination to the exterior of the neck and, if they find no disease in the mucous membrane that covers it, hastily conclude that the cervix is in a healthy state, although its *lining* membrane is deeply inflamed. Dr. WEST, with his contemptuous notions of the neck, and looking only for "trifling abrasions" upon the cervical exterior, has doubtless often failed to detect comparatively occult disease. For my own part, I can truly declare that inflammation of the lining membrane has often come under my notice and I can bear testimony to the accuracy of M. MELIER's description of it. Whether ovarian inflammation and morbid degeneration are as often produced by it, as he thinks, I cannot undertake to decide. I have several times observed the co-existence of the two affections, but my opportunities for exact observation have not allowed me to determine their order of succession. This, however, I know, in common with all who have any clinical acquaintance with it, that ovarian pain is among the most common symptoms of cervical inflammation, and there can be no good reason to doubt that a cause, capable of disturbing these organs to that degree, may eventually kindle in them inflammatory action. Such a propagation of inflammation, it may be added, is not more strange than orchitis produced by gonorrhœal inflammation of the urethra.

Here, then, is a disease as well made out as any other in the nosological catalogue, which approximates as nearly as possible to the sublime requisition of Dr. WEST, and we may fairly demand its recognition as a distinct uterine disease, unless it can be shown that some other affection of the organ has been better studied and is better understood. Let Dr. WEST designate, if he can, that affection.

Having pointed out the defects in his premises, which vitiate his reasoning, we are prepared to follow Dr. WEST in the comparison which he institutes between the two grand classes into which he is pleased to divide all uterine diseases, namely, those in which there is, and those in which there is not, ulceration of the mouth of the womb. The object of the comparison is stated to be to ascertain "whether sterility is more frequent, whether the rate of fecundity is lower, and whether abortion occurs oftener in one class

of cases than in the other? Whether menstrual disorder is more common, more severe, or different in kind; whether leucorrhœa is more abundant, or furnished from a different source; or whether pain is less tolerable when the os uteri is ulcerated, than when that condition is absent? And lastly, whether similar or different causes produce the uterine affections in the two classes of cases; whether the duration of illness is the same; whether the structural alterations of the womb are alike or diverse?" It is not difficult to detect the radical vice that permeates this statement or to prognosticate the vicious conclusion to which it must needs conduct the learned Croonian. If, in the particulars enumerated, there shall be found no marked difference between the two classes of cases, but, on the contrary, that a great resemblance obtains, so that women, laboring under uterine disorders, may have the same symptoms and results, whether ulceration of the os uteri be absent or present, then, in his own language, "it may be inferred with equal certainty that ulceration of the womb can neither be regarded as a general cause of uterine disease, nor as a trustworthy index of its progress; but that it is a pathological condition of secondary moment, and this even though there be still some difficulty in assigning to it in every instance its proper value." Seeing that there is, as has been shown, remarkable identity in the symptoms of diverse diseases of the womb, the conclusion which I would draw from the premises and which is unquestionably the legitimate one, is, that different causes, and among them inflammation of the cervix, may give rise to identical symptoms and consequences.

Having opened his cause, Dr. WEST proceeds to spread before us the materials from which he hopes to make some approach to a satisfactory answer to the question he had propounded concerning the *role* of ulceration of the os uteri. These materials are derived from 1226 cases at the Middlesex and St. Bartholomew's Hospital. In only 268 of them did the symptoms appear to him to justify the use of the speculum, and in 125 of these the os uteri was found to be the seat of ulceration, while in the remaining 143, it showed no sign of that condition. He very properly declines using any except the cases examined with the speculum, for the solution of the question before us. These furnish him with the

grounds on which the different conclusions rest, and before we proceed with him to work out, or rather unwork, these conclusions, it may not be uninteresting to offer a few words of commentary on the data which were at his disposal. It strikes me as strange that out of the total number of 1226 females, with symptoms of uterine ailment, Dr. WEST should have thought it not necessary to a correct diagnosis to employ the speculum in more than 268 cases. Unless their complaints were exceedingly trivial, I am persuaded that useful light might have been thrown upon them, by a resort to that much abused but invaluable instrument. Then again, that he should have found only 125, less than half the number examined specularly, affected with ulceration, is to myself conclusive proof that either he is sadly deficient in practical sagacity, or women in England are different from their sex in this country,—for, without laying claim to any special tact in this particular, I am confident that I have found inflammation in a far greater proportion of cases, where I had reason to expect it.

Again; it may be instructive to compare Dr. WEST's researches with those of Dr. BENNET, who is connected with another public institution in London, and who, in my opinion, is justly entitled to rank among the highest and most reliable authorities on this subject. Dr. BENNET, as every body knows, affirms the greater frequency and importance of inflammation and ulceration of the cervix in comparison with the body of the uterus, and avers that, during the last few years, he has kept a careful register of all the cases of uterine disease which he has treated at the Western General Dispensary, with which he is connected as physician-accoucheur. This Dispensary is, as he informs us, one of the largest institutions of the kind in London, nearly ten thousand patients being annually treated by its medical officers. His own patients consist of those who present uterine symptoms, and on analyzing their cases, 300 in number, the details of which were all scrupulously recorded, he finds that 243 were suffering from decided inflammatory disease of the cervix or its cavity and that in 222 ulceration was present, which is in the proportion of one in every 1.57 for inflammation, and one in every 1.78 for ulceration. The analysis of the cases, he further states, which he has seen and attended in private practice during the last three years,—

amounting to nearly 300,—leads to precisely the same conclusion. Dr. BENNET considers the local inflammation the real cause of the morbid symptoms, notwithstanding the great diversity in the *apparent* nature of the disease. "Some patients," says he, "complained of leucorrhœa, some of dysmenorrhœa, some of irregular menstruation, some of flooding, some of backache, some of bearing-down and prolapsus, and some merely of debility and anæmia. The true nature of the case had to be sifted out—as generally occurs; what was only a *symptom* being considered the disease."

During the last fifteen years, a large number of females have come under my treatment for sexual diseases,—some of them residing in the city but many more from abroad,—and although I have kept no regular record of their cases, I am very sure that in a large majority of them, inflammation with or without ulceration of the cervix uteri was the special malady and the point of departure of most of their ailments. I do not mean to affirm that it always presents itself in an isolated state, for it is sometimes associated with inflammation of the mucous membrane of the body of the organ, whether by gradual extension or simultaneous occurrence, I cannot undertake to decide. I am, also, well aware that inflammation may be confined to the body, or at least, exist in that portion of the uterus in a more decided degree than in the neck.

Thus much premised, we can give to Dr. WEST the attention he craves to the various points, already referred to as likely to elucidate the question of the influence of ulceration of the os uteri in the production of uterine disease or in occasioning functional disorder of the generative system.

1. *Parallel between ulcerative and non-ulcerative uterine diseases in their influence upon reproduction.* To learn whether uterine ailments in general or ulceration of the os uteri in particular exert any pernicious influence over the generative function, Dr. WEST collected the statistics of 980 healthy married women of different ages, who were attended in their confinements by pupils of Saint Bartholomew's Hospital, and the like number, married above one year, who applied during the childbearing period of life on account of any ailment of the uterine system,—125 of whom, being exam-

ined with the speculum, were found to be unaffected by ulceration and 117 of the number being affected by it. The information thus collected he embodies in tabular form, from which it appears that there were 4.17 children and .7 abortions to each marriage of healthy women; 2.7 children and .47 abortions to each woman with uterine symptoms; 3.3 children and 1.3 abortions to each woman with uterine symptoms but without ulceration; and 3.5 children .89 abortions to each woman having uterine symptoms with ulceration.

This table discloses what we should have expected, namely, that uterine disease is unfavorable to fecundity; it discloses, also, what we should not have expected, viz: that ulcerative disease is not so unfavorable to propagation as anomalous and anonymous complaints of the womb. The difference between the two classes of cases, viz: the ulcerative and the non-ulcerative, is, as Dr. WEST confesses, but small, and the number of cases from which the table is constructed are too few to justify any such inference; "but I do think," he says, "that we are warranted in concluding that ulceration of the os uteri does not interfere with the performance of the most important function of the generative system in any peculiar manner, or to a greater degree than many other uterine ailments." My own conclusion would be that although ulceration of the os uteri is not an insurmountable barrier to fecundity, yet *it diminishes fecundity nearly as much as all other diseases besides*,—the figures being 3.5 to 3.3, while its proportion of abortions is as .89 to 1.3, of all that occur in females laboring under uterine complaints. This conclusion rests on the basis, already sought to be established for it, namely, that if no other disease could be detected, it alone is to be held responsible for the pathological results.

The observations of Dr. WEST, thus tabulated and paraded as of mighty statistical moment, are, however, so deficient in details as to be well nigh valueless. We do not learn anything from him except that these cases were accompanied with *uterine symptoms*, and ulceration was found in a certain number but absent in the remainder; that each class bore a certain number of children and aborted a certain number of times! As to the ulcerative cases,

we are not informed how long the local lesion had existed or whether it was discovered only once or oftener by specular examination. For aught that appears to the contrary, the ulceration might have supervened upon the last parturition or abortion and consequently might have had no agency either in promoting or thwarting fecundity.

From researches so sterile in available information it is refreshing to turn to those of Mr. WHITEHEAD, of Manchester, who has, by indefatigable labor in an almost boundless field and amid scenes calculated to repel most men, collected and systematically arranged a body of accurately observed facts, bearing on this question, from which we feel safe in drawing definite and positive conclusions. The results of these laborious investigations he has given us in an unpretending volume, entitled "Causes and Treatment of Sterility and Abortion,"—a monument to his memory more enduring than even "written rocks." His cases occurred among the patients of the Manchester Lying-in Hospital,—an institution peculiar, as he tells us, in having no beds, its very numerous patients being attended at their own houses or hovels, and consisting of the humbler order of females, mostly factory operatives. From thousands of these he collected the history of the reproductive period (*twenty years*) of their lives; thousands of them were, moreover, examined with the speculum, and thus a mass of information was gathered, unequalled on this subject and scarcely surpassed on any other.

Our present inquiry is concerned only with the *causes* of abortion, with some allusion merely to its treatment, so far as it confirms the verity of the causes assigned. Mr. WHITEHEAD questioned two thousand women on their admission as patients in the Manchester Lying-in Hospital, as to their previous history in reference especially to their unsuccessful pregnancies, and the causes assigned by them and their medical attendants for the misfortune in each instance. Of this number, seven hundred and forty-seven had already aborted once at least; to some, the event had occurred several times. The sum of their abortions was twelve hundred and twenty-two. The following are the causes to which they had been attributed:—

“Inward weakness,” impaired state of the health generally, and acute disease,	911
Accidents, mental perturbations, &c.	221
No assignable cause,	90
	<hr/>
	1222

By the term “inward weakness” and its equivalent, “waste,” which is usually employed by the uneducated poor in England and also in this country, is always meant *leucorrhœa, fluor albus, or whites*. The form of the affection in which the discharge consists in part of pus, the common people of Manchester denominate the “yellows,” expressive of its color, which they rightly regard as a more serious malady. Mr. WHITEHEAD was frequently struck, in the course of his inquiries, with the commonness of leucorrhœal discharges previous to abortion, in connection with a well marked train of local and constitutional disturbances, and on resorting to the speculum in such cases, the source of the discharge appeared to be plainly revealed;—“disease of the lower part of the uterus being found to exist in almost every instance.” That this lesion of structure constitutes the true pathological seat of leucorrhœa and of all its associated phenomena, as well as a very frequent cause of disastrous events during pregnancy, is, he thinks, proved by the beneficial effects of remedies directed to the uterine affection, such as cauterization with the nitrate of silver, &c., as in cases uncomplicated by pregnancy. With the improvement of the local affection, the discharge diminishes, the patient becomes more comfortable, being relieved of most of the symptoms that had distressed her before previous abortions, and she may go the to full time and give birth to a healthy child.

Mr. WHITEHEAD subjected to careful investigation three hundred and seventy-eight cases of abortion, principally with a view to obtain a correct statistical average of its prevailing causes, and the result is embodied in the subjoined table.

Causes of, and conditions associated with Abortion, in Three Hundred and Seventy-eight Cases.

Accidental agencies.	Placenta prœvia.	Constipation of the bowels.	Retroversion of the uterus.	Incurable disease.	Vascular congestion.	Disease of the lower part of the uterus.	Obscure causes.
44	8	3	3	1	15	275	29

Upon these divers causes of abortion he offers judicious practical remarks, illustrated and enforced by a recital of cases; but we are at present interested only with *disease of the lower part of the uterus* (the cervix), considered as a cause of abortion, which figures largely in this table, claiming seventy-three per cent., as its proportion. These were, with very few exceptions, examined with the speculum, either before the abortion took place or in three or four weeks after, and in every case, disease of the lower or of the internal part of the uterus, and in a few instances of the vagina was found to exist. Some who had the disease in a severe form submitted to treatment and were cured; others disappeared after being prescribed for two or three times. One hundred and forty-one of these patients have a second, some a third time presented themselves for treatment, being again pregnant and affected precisely as they were on previous occasions. As to the success of remedial measures directed chiefly to the local affection, in preventing abortion, in such as submitted, a second or third time, to treatment, we are told,—“In fifteen of those who have been a second time treated, the issue has terminated unfavorably. Fifty-four have already arrived at the full period of the process; of whom three were delivered of still-born children, and in fifty-one the child was born alive and in health in each case. In the remainder, the treatment has been so far successful as to lead to a confident hope that the issue will be favorable.”

The discovery of ulceration of the cervix uteri in pregnant females is attributed by Dr. BENNET to M. BOYS DE LOURY, one of the physicians of Saint Lazarre, a hospital prison in Paris, by whom it was recognized as a frequent cause of abortion. This opinion was adopted and confirmed by Dr. BENNET prior to the date of Mr. WHITEHEAD’s publication. To the former, indeed, the profession in Great Britain and this country are indebted for their knowledge of the subject. Dr. BENNET describes, however, but one variety of the affection,—a modification of the simple inflammatory ulceration of the non-gravid state. The hypertrophy, increased vascularity and softening of the womb during pregnancy changes the aspect of this form of ulceration in a very striking manner,—its surface becoming granular and even fungous, while there is also a more abundant purulent secretion. Mr. WHITE-

HEAD is entitled to the credit of pursuing the investigation and greatly extending our knowledge of diseases of the uterus, especially of the cervix, in the pregnant state, which may eventuate in abortion, and I will offer a brief synopsis of his classification of them. Under the general expression of *disease of the lower part of the uterus*, he includes the following lesions:—

1. *Inflammation and superficial erosion*, implicating one or both lips of the os uteri, and more or less of the external and internal cervix.

2. *Varicose ulceration*, commonly occupying the back part of the anterior lip, sometimes confined to the posterior, and occasionally implicating both. It gives rise to hemorrhages obeying, more or less perfectly, the menstrual periods and to purulent discharges in the intervals.

3. *Œdema of the Cervix.*

4. *Fissured ulceration* of one or both commissures, of the anterior or posterior lip, or implicating all these parts at the same time.

5. *Induration of the cervix*, with or without abrasion of surface.

6. *Endo-uteritis*, or inflammation of the lining membrane of the uterus, affecting the body as well as the neck, and sometimes accompanied with induration of the cervix or erosion of one or both lips of the os uteri.

7. *Follicular ulceration.*

8. *Gonorrhœal inflammation*, affecting the lips and adjacent cervix, and especially liable to spread to the lining membrane of the entire organ.

9. *Syphilitic disease*, in its primary, secondary and tertiary stages.

10. *Prolapsus uteri*, which owes most commonly its existence to disease of the lower part of the uterus, as the primary exciting condition.

Not only has abortion been traced by Mr. WHITEHEAD to these several lesions, mostly of the cervix, but he even assigns to each its causal proportion and indicates the period of pregnancy when each is most apt to occasion abortion. Thus, inflammatory ulceration was the cause in 26 in every 100, and the event happened

between the middle of the sixth and the middle of the ninth month of pregnancy. Varicose ulceration induced abortion in 6 or 8 out of every 100, and it operated during the latter two or three months. *Œdema* of the cervix, acting likewise in advanced pregnancy, prevailed in about 1 in every 25 or 30 cases. Fissured ulceration was found to exist in 20 to 24 out of every 100 cases, and may cause abortion from the fourth to the middle of the seventh month of uterogestation. Endo-uteritis is a common cause of abortion during the early months. It may implicate the cavity of the cervix only, or involve the whole lining membrane of the womb.

The argument does not need greater amplification:—what has been declared is sufficient to warrant the affirmation that if any pathological doctrine can be established by clinical observation, then has Mr. WHITEHEAD proved, beyond all reasonable doubt, that inflammatory disease of the cervix uteri is a frequent cause of abortion. If this be not the irresistible conclusion from his premises, then is all clinical experience futile and all ratiocination a vain delusion.

Let us inquire now, very briefly, whether cervical disease can be considered a cause of sterility and thus affect fecundity by preventing conception, while abortion acts by bringing to naught its product.

Sterility may doubtless be attributed to a variety of causes, some of which, such as lesions, or malformations of the fallopian tubes and ovaria, it may not be possible to discover during life. But there can be no doubt that, in a certain proportion of cases, inflammation of the cervix uteri constitutes the only assignable cause, the efficacy of which, as a barrier to conception, is proved by fecundation taking place subsequent to the subdual of the inflammation. I must not be understood to assert that inflammation of the cervix is necessarily and in every instance a cause of sterility, for many exceptions have come to my personal knowledge and doubtless the malady often exists antecedent to the pregnancy which it destroys by abortion. What may be affirmed, nevertheless, without the fear of successful contradiction, is the co-existence of such inflammation and sterility, the removal of the inflammation being followed by cure of the sterility, in too many instances to admit of the belief that they were merely coincident.

When sterility results from this cause, it is probable that the inflammation affects the lining membrane of the cervix and not unfrequently also that of the body,—the former being the malady described by MELIER and denominated *cervicitis* by WHITEHEAD; the latter, *endo-uteritis* of the last named author. When the affection is restricted to the exterior of the neck, it is not so apt to interfere with fecundity, although it may, as we have seen, blight its fruit and occasion abortion. The reason of the difference, in this respect, between external and internal inflammation of the neck is probably found in the obstruction of its canal by glairy mucus in the latter, offering an impediment to the intromission of spermatozoa, whose access to the ovule is known to be essential to fecundation. Be this as it will, you may observe that all the cases of sterility detailed by WHITEHEAD were accompanied with *endo-uteritis*, and some of the patients, who had undergone a tedious matrimonial probation, became fecund after being cured of their malady.

2. *Parallel between the two classes of cases in respect to their influence upon menstruation.* Are manifestations of menstrual disorder alike or diverse in ulcerative and non-ulcerative cases? There is, as Dr. WEST alleges, a general correspondence between them, and he gives a tabulated statement, comprising a gross total of one hundred and thirty-eight cases of anomalous uterine disease without ulceration, and one hundred and twenty of ulceration, showing the manner in which the menstrual discharge was affected. I need not go into the details; it is sufficient to say that the difference between the two classes is not great—menstruation being natural or suppressed, irregular or scanty, painful or profuse in both, in nearly the same per cent. It is only remarkable that in those cases where there was ulceration there was somewhat greater activity of the sexual function. “In them, pregnancy or lactation was more frequent; scanty, irregular, suppressed, or painful menstrual was rarer; while excessive or over-frequent menstruation occurred with greater frequency.” From which we are to conclude, I suppose, that ulceration only quickens the uterus in the performance of its functions! There is, I think, some inaccuracy in the observation of these cases; at all events, painful menstruation is more frequently connected with inflammation than

is here exhibited. But admitting the truthfulness of his observations, still, on the principle which I have endeavored to establish, in all the cases of deranged menstruation in which no other cause could be assigned, the ulceration is fairly entitled to claim the paternity, and these make its progeny as numerous as that of all other causes united.

3. *Parallel between the two classes in their relation to leucorrhœal discharges.* The object of the comparison is to determine whether such discharges are more frequent, more profuse, or furnished from a different source where ulceration exists, than in cases where it is absent. These particulars are exhibited, as usual, in tabular form; nearly an equal number of cases of leucorrhœa with and without ulceration are contrasted, from which it is to be inferred that leucorrhœa is nearly as often met with and may be equally profuse, where there is no ulcerative disease whatever. The source of the discharge was determined in eighty of the non-ulcerative, and eighty-five of the ulcerative cases, viz:—in fifty-four of the former, it was from the uterus, in nineteen from the vagina, in seven from both—80; while in fifty-three of the latter the discharge was from the uterus, in six from the vagina, in eight from both, also, in twelve, in an appreciable degree, from ulceration, in only six from ulceration alone—85.

By the discharge being from the uterus, Dr. WEST evidently means from the body of the organ, for in remarking on opinions contrary to his own, he says: “The discharge is supposed to be furnished either from the ulcerated surface itself, or from the inflamed and irritated canal of the cervix.” This table, if it is to be received, develops the most astounding of all the disclosures of our lecturer, seeing that leucorrhœal discharges have their source in the body of the uterus, whether there be ulceration of the os or not; in twelve cases, truly, the oral ulceration helped to swell the tide, but in only six was it the *fons et origo!* I am free to confess that, if it can be established by accurate observation that leucorrhœa is independent of disease of the cervix, to the extent indicated by this table, the controversy is ended and Dr. WEST has exploded a pernicious error. The cervix is, in my opinion, the predominant and almost exclusive seat of leucorrhœa, and to this portion of the uterus are nearly all local remedies for the malady

addressed, which would be nugatory, of course, could it be proved that it arises from a higher source. Oppugnant to our doctrine and practice as are these statistics of leucorrhœa and decided as is the vantage gained by them, if credited, Dr. WEST submits, for the present, only a few modest comments and leaves them to make their own impression upon the reader. The strong current, thus put in motion, only sinks, however, *Arethusa*-like, to reappear in the third lecture, where I shall endeavor to stem it.

4. *Parallel between the two classes in respect to the accompanying pains.* Comparison extended to another symptom, seldom absent in uterine affections, namely, pain, shows, as Dr. WEST thinks, a close correspondence between the two classes of cases. In both, the seat of pain is various; it may be in the uterus, in the back, the pubic or iliac region, or in two of these regions at the same time. A table turns up again, exhibiting one hundred and forty-three cases in which there was no ulceration and one hundred and twenty-five in which ulceration existed, and the seat of pain is specially indicated. All that is conceded to the ulcerative cases is, that the pain accompanying them is usually more generally diffused over the whole pelvic region. Pain is not to be regarded as characteristic of ulceration, either on account of its intensity or seat, and it is, every way, too unimportant in this discussion to merit the notice bestowed on it by Dr. WEST. Let it be conceded that any disease of the uterus may be attended with pain.

5. *Parallel between the two classes of cases in reference to the appreciable organic condition of the uterus.* This, as well as the other points of the inquiry, is sought to be illustrated by a tabular statement, setting forth the state of the womb, so far as it could be ascertained, in the ulcerative and non-ulcerative cases. The table (No. VIII.) comprises one hundred and thirty-nine cases of non-ulcerative and one hundred and twenty of ulcerative disease; the uterus (meaning the body) was apparently healthy in twenty-nine of the former and thirty-six of the latter; not healthy in some respect or other in one hundred and ten of the former and eighty-four of the latter. The deviations from a healthy state, indicated in the table, consisted in misplacements, enlargements, or indurations of the body or neck, affecting one portion only or both, at

the same time. It would be uninteresting to go into the details, nor is it at all necessary. It will be sufficient merely to indicate their bearing on the question at issue. Dr. WEST thinks that this table exemplifies the same general correspondence between the two classes of cases; he admits, however, that enlargement of the body of the uterus and enlargement or induration of the cervix existed much more frequently in connection with ulceration of the os uteri than independently of that condition. Still he maintains that cases of enlargement and induration, unconnected with ulceration, are sufficiently numerous to repel the assumption that the latter is the cause of the former. "Moreover," says he, "in two-thirds of the cases where ulceration was absent, and in one-third of those in which it was present, the enlargement was confined to the body of the womb—a fact easily reconcileable with the belief that that part of the organ, as it is of the greatest physiological importance, so is also the more frequent seat of the gravest pathological processes, or, at any rate, their most usual point of departure."

That the body of the womb may be enlarged by other causes than ulceration of the orifice, I have no wish to deny. There is no reason why that portion of the organ may not be the primitive and exclusive seat of disease; at the same time, it cannot, I think, be doubted that inflammation may be propagated from the neck to the body, as described by MELEIR, and there is good reason for the belief that, in all cases wherein both portions of the womb are implicated, the usual point of departure of morbid action is, contrary to Dr. WEST's opinion, the cervix instead of the body. In support of this view, it may be observed that the neck is far more frequently diseased than the body,—this table itself showing that while the body alone was enlarged in twenty cases of non-ulcerative, and twelve of ulcerative disease—32, the cervix alone was enlarged or indurated or both in thirty-four non-ulcerative, and twenty three ulcerative—57, which is nearly in the proportion of two to one, and yet falls short, I suspect, of the real preponderance of cervical over corporal affections of the womb. Now, let it be granted, as it must, that inflammation may spread in either direction along the continuous mucous lining of the uterus, and it necessarily follows that when both portions of the organ are found

to be alike involved, the probability is at least as two to one that the morbid action commenced in the cervix.

"It also seems questionable, from the data which this table furnishes, whether induration of the os or cervix uteri is so generally dependent on ulceration of the os uteri as has been asserted, since it was present in forty per cent. of the cases where no ulceration existed. Besides, if such a connection as that of cause and effect subsisted between ulceration of the os uteri and induration of its cervix, or even if there were any necessary relation of degree between them, we ought to find the most extensive ulceration co-exist with the greatest hypertrophy and most considerable induration; while slight ulceration of the os, and an otherwise healthy state of the cervix, might be expected to be usually found together. Facts, however, do not bear out this opinion."

Here follow two tables (IX. and X.) the first showing the different *seats and comparative frequency* of different forms of ulceration, and the second, the *degree*, marked "slight," "moderate," and "extensive," in which they existed. These tables possess no special interest and are of no importance to any one except Dr. WEST himself, who produces them merely to subserve a particular purpose, namely, to show

"1st. That in 25 out of the 46 cases in which the ulceration is stated to have been slight, more or less considerable induration or enlargement of the lips or neck of the womb was present.

2nd. That in 9 out of 16 cases in which the ulceration was stated to have been considerable, there was no induration nor enlargement either of the cervix or os uteri.

The argument is, I readily grant, conclusive against *ulceration* being the cause of enlargement or induration either of the neck or body of the womb; but it has no relevance and is utterly powerless when applied to *inflammation*, which, as already shown in my first lecture, is really the disease in controversy. Ulceration, enlargement, and induration are all sequences of inflammation and there is no more reason to ascribe enlargement to ulceration than ulceration to enlargement, nor has any writer displayed such pathological imbecility, as is here imputed. Dr. WEST cannot be ignorant of the doctrines he criticises and his perpetual resort to a quibble,—substituting ulceration for inflammation, and making it the butt of his animadversions,—completely strips him of the cloak of fairness, which he affects to wear and is at such pains to

display to the best advantage. These several lesions being only sequences of inflammation, we should expect that when one exists in an unusual degree, the others may be in abeyance. When, for instance, inflammatory action expends its whole force upon the mucous membrane, extensive ulceration with no apparent enlargement may be the consequence; but should the subjacent tissue become implicated, evinced by enlargement from deep-seated congestion, the result may be effusion of coagulable lymph and permanent induration, with little or no superficial ulceration. Such enlargement and induration of the cervix is a very common pathological condition, and whenever it is met with we may safely attribute it to inflammation, whether other evidence of that pathological state happen to be present or not. Ulceration may also persist after the subsidence of active inflammation, serving to complicate the results of that morbid process and being itself only an effect of their common cause, inflammation.

LECTURE III.

IN the two preceding lectures, it has, I trust, been satisfactorily established that the neck is no unimportant portion of the womb; and that it has special functions to perform as well as the body, equally indispensable to the grand function which is committed to them jointly. Any attempt to degrade the one and exalt the other is, therefore, a perversion of sound physiology, and it is manifest that the tendency of Dr. WEST's investigations is toward the limited and contracted views, which he reprobates in others, for while they may probably attach too much importance to the neck, he has himself certainly over-estimated the physiological and pathological rank of the body. To such an excess is he led away by this ultraism, that he does not, as we have seen, hesitate to speak of the body, exclusive of the neck, as the *uterus*, and to designate discharges proceeding from it *uterine*, as though discharges from the neck ought to be distinguished by some other appellation.

It has furthermore been shown that the neck may be involved in inflammation without any participation on the part of the body, which is defended, in a good degree, from the encroachment of the morbid action by the shutting of the portal of communication between them,—the *cervico-uterine* or *internal orifice*. No reason can be assigned, and certainly none has been by Dr. WEST, why such inflammation may not be an original or primary affection, independent of inflammation or other morbid action of the body, and it is as little questionable that the neck being inflamed, in this isolated manner, may give rise to uterine symptoms as readily as may the body—their sympathies and morbid reactions being identical.

Having annihilated the cervix, Dr. WEST was forced to cast about and find causes of uterine maladies which expend their disturbing influence, by a sort of elective affinity, upon the body of

the organ, and likewise to seek an explanation of the success of local remedies applied to the cervix in relieving and permanently curing many cases of uterine disease. This is the scope of his third and concluding lecture, to which I shall, to day, direct your attention. In the commencement of it, Dr. WEST manifests a just appreciation of the difficulties before him. The cervical doctrine having been abolished by him, he was pained to announce to his auditors that he had no theory to offer as a substitute that would afford so simple and apparently so felicitous an explanation of the complex morbid processes and their cure, as it had appeared to do. O, no, he can put forward no such pretensions, for, in his deep musings on the *arcana* of nature, he had, *mirabile dictu*, discovered that the different symptoms ascribed to ulceration of the *os uteri* may arise in reality from very various causes,—“at one time they attend on constitutional disorder, at another on *some ailment* of the sexual system, and that ailment by no means the same in every instance.” So, then, it seems that the sexual organs actually live under a constitution and they are obnoxious to diversified “ailments.” An illustration of their subjection to the constitution is fetched from the case of the chlorotic girl, and I have no particular fault to find with it, except that I have not known such abundant leucorrhæal discharges to attend, as are mentioned by Dr. WEST. In the disordered digestion, malassimilation, and defective hematosis, that characterize chlorosis, there is adequate cause for the imperfect performance or the non-establishment of the menstrual function, and the proper remedies for the sexual atony are to be sought in all such measures, hygienic and therapeutical, as improve the general health. This, it may be presumed, would be conceded even by Dr. BENNET.

Dr. WEST draws other illustrations of constitutional agency from the influence over the sexual functions of hepatic and nephritic disease, and from the gouty and rheumatic diatheses,—all of which, as he shows, may variously derange menstruation and give rise to leucorrhæal discharges. Nor do I doubt that, in such instances, the appropriate remedies may be colchicum, iodide of potash, diaphoretics and sedatives, alkalies and vegetable bitters, so highly lauded by him, without any allusion to topical treat-

ment. Dr. WEST has, however, jumbled together things that are incongruous, which ought to be kept separate, when viewed as remote causes of sexual maladies. Functional and organic diseases of other organs extend their morbid influence to the uterine system in a quite different manner from diseases or diatheses, which involve the whole constitution, such as gout, rheumatism, anaemia, plethora, scrofula, syphilis, &c. In the former case, the perturbing influence is propagated through the channel of sympathy, growing out of nervous and vascular inter-communication; in the latter, the constitutional vice, whatever it may be, reaches the sexual, in common with all other organs. In reference to the former, it cannot be doubted that they may be produced by the reciprocal morbid influence of functional and organic diseases of the sexual organs, and hence there are few cases of such disease, of long standing, that do not sympathetically affect the digestive and urinary organs. The problem of disease thus becomes a complex one, and it may not always be easy to find the first link in the morbid chain; nevertheless, when it is ascertained beyond all doubt that the sexual organs are the seat of chronic inflammation and its results, it may safely be inferred that, as a general rule, whatever functional derangements of other organs may attend are purely sympathetic.

Again: when the uterus is seriously involved by constitutional diatheses or diseases, it will generally be found that it has become the seat of correspondent positive lesion, requiring local, in conjunction with constitutional, treatment. Such is assuredly the fact in regard to scrofula and syphilis, the womb being liable in common with other parts to the specific inflammation which these maladies set up in their progress. In such cases, local remedies are as much indicated as in scrofulous or syphilitic inflammation of the eyes or fauces. The pathological importance of ulceration of the os uteri may be diminished when it is only one of many local affections that owe their paternity to a constitutional cause, but even then it is not unimportant nor can the speculum be dispensed with in its treatment. Could Dr. WEST, therefore, succeed in demonstrating that cervicitis, or as he prefers to denominate it, ulceration of the os uteri, is never any thing but a secondary

affection, he would not despoil the speculum of its trophies, for whatever may be its origin, topical applications may be required for its subjugation.

Having assigned to the "constitution" its share of the spoils wrested from the *neck*, Dr. WEST proceeds to bestow the remnant upon his favorite *body* of the womb,—leaving the neck completely shorn of the honors with which it had been bedecked by such fantastic pathologists as BENNET, WHITEHEAD and a mob of French authors. In a large proportion of cases, uterine ailments are attributable to marriage, pregnancy, abortion or delivery,—Dr. WEST says in 40 to 50 per cent., and a table was brought forward in his second lecture to prove this allegation, which I did not think it necessary to notice. These are indubitably fruitful sources of uterine disease, acknowledged as such by pathologists on both sides of the question under discussion. As to the special lesion produced by them, Dr. WEST alleges that "according to the opinion of some observers," these causes act by producing inflammation of the cervix uteri and consequent ulceration of its orifice, but he thinks a different explanation is not only allowable but requisite. What his explanation is you can be at no loss to anticipate; it is, of course, such an one as will give to the body pre-eminence over the neck and crown it with pathological laurels; *body versus neck*. To illustrate and enforce his views, Dr. WEST selects the case of a puerperal woman, who leaves her bed too soon or makes some injurious exertion, while the uterus is still heavy, its vessels large, and the process of involution of its tissue is still incomplete. The immediate consequence of her indiscretion is persistence of the lochial discharge, converted into uterine hemorrhage at the next menstrual period, and this succeeded by abundant secretion from the mucous membrane. The hemorrhage recurs periodically, with wasting leucorrhea in the intervals, by which the blood is impoverished and the health is enfeebled. In such a case, we shall probably find some prolapsus and increased size of the uterus, its orifice open and perhaps somewhat abraded. Whence now in this case, asks Dr. WEST, comes the hemorrhage? From the whole extent of the genital mucous membrane it may be, and doubtless that portion of it lining the body furnishes the greater part of it. And I do not dissent from his opinion that the

general uterine congestion is the essential malady, at least in the onset, which may be most successfully combated by the remedies prescribed by him, namely, rest, tonics, and the cold douche, to which may be added ergot in moderate doses, repeated several times in the day, to promote contraction of the uterine fibres. Inflammation may supervene upon such a state, marked by extreme tenderness of the womb, acute pain, purulent discharges, often tinged with blood, and constitutional derangement, leaving, on its subsidence, the uterine tissue harder in texture than it was previously. Dr. WEST points out the liability of such uterine inflammation to relapse; yielding apparently to remedies for the time being, but recurring over and over again in spite of treatment.

Even after the advent of inflammation, he sees nothing in the condition of the neck worthy of special notice; its lining membrane doubtless participates in the general congestion and its follicles *probably* secrete more actively, but no one can suppose that a slight abrasion around its orifice, should it chance to be present, is here a matter of any consequence. Dr. BENNET makes a very different report of the pathology of such cases. In an article on menorrhagia in the *London Lancet** speaking of menorrhagia after parturition, he says: "The continued and obstinate hemorrhage which is often observed after parturition, both before and after the return of menstruation, is nearly always complicated with and occasioned by inflammatory ulceration of the neck of the uterus, with or without disease of the body of the uterus." He allows that the blood escapes from the lining membrane of the uterine cavity, as well as from the ulcerated surface; he has frequently seen the blood oozing from the latter and often checked it instantaneously by freely cauterizing with the solid nitrate of silver, the *entire* ulcerated surface, both internally and externally to the os uteri. My own observations accord, in the main, with those of Dr. BENNET, who, it will be perceived, does not exclude the body from all participation but asserts the special prominence of cervical disease, of which, as a general rule, there can be no doubt. Dr WEST himself unwittingly corroborates this fact, in the narrative he gives of one of his cases, that of a married

woman, aged 41, admitted several times into St. Bartholomew's Hospital, who had suffered two abortions and given birth to one child at the full period, after a most lingering labor. Her symptoms, which were those of most uterine maladies, dated from the time of her tedious labor. At her first admission into the Hospital, "the uterus was found to be rather low down, but not much enlarged, though very tender; the cervix uteri was indurated, somewhat elongated, and very painful; and the os uteri, which was small and circular, presented no trace of abrasion, either affecting its lips or extending into the canal of the cervix, though the congestion of that part was very marked." She was, for the time, relieved by rest, frequent local leeching, and sedatives. Relapsing in less than twelve months, she returned to the Hospital and underwent the same treatment, and we are emphatically told that "the os uteri on this occasion also presented no abrasion, though frequent examinations were made with the speculum to ascertain the fact." Again she relapsed and returned to the Hospital, and "on her admission, there was the same intense congestion of the os uteri as on former occasions, with a very abundant, highly offensive, purulent discharge, slightly tinged with blood from its interior; the womb itself being low down, somewhat larger than natural, and the cervix large, hard, swollen, and intensely tender; but no trace of abrasion of the os was perceptible."

In his comments on this case, Dr. WEST draws special attention to the fact that, although the symptoms were exceedingly severe and recurred again and again, for the space of three years, there was no ulceration of the os uteri or of the canal of the cervix, and he sagaciously conjectures that there must have been "some inflammatory affection of the mucous membrane of her uterus," by which is meant, of course, the *corpus*,—for, hang the neck, it has nothing to do with the uterus. It would be difficult, I submit, to find, in the whole compass of the recorded experience of the profession, a case looked at through a more refracting medium; it was manifestly one of cervical inflammation, and it is obvious that Dr. WEST must imagine either that all this controversy is about abrasion of the os uteri, or that there can be no inflammation where there is no abrasion. Mark the frequent examinations

with the speculum, for no other assigned purpose than to ascertain the fact and make sure of it that there was no abrasion! It is true, the cervix was "*large, hard, swollen, and intensely tender,*" from which an ordinary observer might have inferred that it was inflamed, but no, the philosophical Croonian might say, there was, I will be sworn, no trace of "abrasion" of the os.

Other cases might be adduced by him, which, he thinks, admit of the same interpretation, namely, that the interior of the uterus suffers first and chiefly, and whatever may befall the neck is but incidental and unessential. It is from this grand uterine interior, according to him, that the greater part of the leucorrhœal, and all the hemorrhagic discharge is furnished; in short, it is the great seat and centre of the most important pathological as well as physiological processes. It is easy to dogmatize after this fashion, but then unfortunately we have his own admission, towards the conclusion of his third lecture, that it is only *probable* that such is the source of leucorrhœal discharges, as we have not, in his opinion, the means of ascertaining with positive certainty its real origin! From this opinion I beg leave to dissent; we can, I think trace this stream to its fountain and it is susceptible of proof that, in a large majority of cases, the fountain breaks forth in the neck and not in the body of the womb. Owning such imperfection of diagnosis, how could Dr. WEST pretend to settle so definitely and authoritatively, as he did by table in his second lecture, the source of leucorrhœal discharges? Then it was asserted that the source of the discharge had been ascertained in the cases tabulated and it was traced to the uterine body, the neck contributing little or none.

Although he has only *probability* in favor of his own opinion, concerning the origin of leucorrhœa, Dr. WEST, curiously enough, declares that the weight of proof seems to him "to lie upon those who see in the leucorrhœa only a hyper-secretion from the glandular apparatus of the cervix uteri." Under protest of his right to demand it, I accept the *onus probandi* and shall attempt to show that leucorrhœal discharges, in most cases of chronic uterine affections, proceed from the cervix and are the product of inflammatory or ulcerative disease. It is needless to say that no pathologist holds the doctrine, imputed to a whole class by Dr. WEST,

that leucorrhea is only a *hyper-secretion* from the glandular apparatus of the cervix.

In favor of the cervical origin of leucorrheal discharges, in most cases of uterine profluvia, it may be urged—

1. *That such is their source, according to the observations of Mr. WHITEHEAD, already referred to, in the leucorrhea of pregnancy.* Independently of these observations it might, indeed, have been inferred that the neck is the portion of the organ that furnishes them rather than the body, in consideration of the different physiological condition of the two portions during pregnancy. Whether we regard the decidua as a membrane of new formation or as the uterine mucous membrane, hypertrophied to fit it for the relations it is to bear to the ovum,—in either view, the fact is undoubted that the entire cavity of the body is occupied by the ovum and that an intimate attachment is formed between them. The whole extent of its mucous membrane is brought into union with the foetal chorion and is made tributary to the growth of the ovum. There is then no part of it that presents a free surface, which could possibly yield a secretion, natural or morbid, that could escape by the os uteri. Not so with the cervix. It forms no connection with the ovum; its mucous surface is free and continues so even to the close of pregnancy, its follicles being naturally in a state of hyper-secretion, continually renewing the mucous plug, as fast as it dissolves in the vagina, and thus keeping the cavity of the body sealed up till its gestative work is accomplished.

In the cervical canal, therefore, there is not only a free surface, with a ready outlet, but a surface excited to exaggerated secretion, by the stimulus of pregnancy, and predisposed by this unwonted functional activity to take on morbid action. Physiology thus sanctions Mr. WHITEHEAD's pathology of the leucorrhea of pregnancy and is irreconcilably opposed to the doctrine of Dr. WEST, at least in every case of the disorder occurring in the course of pregnancy. Seeing that leucorrheal discharges are very common during pregnancy, and can have no other source than the neck, it must, I think, be acknowledged that it is highly *probable* that they have the same origin when pregnancy does not exist. It being established that there is an adequate proximate source, we

have no right to seek a remote one, unless it be found, by actual exploration, that the former is in a healthy condition.

2. *The character of the discharge, as seen issuing from the os uteri, may be taken as an index to its source.* According to the researches of M. COSTE, * confirmed by others, the cavities of the two portions of the uterus are lined by mucous membranes differing materially in anatomical composition and structure, adapting them to the different functions they are destined to perform. This anatomical difference gives rise to a marked difference in the product of their secretory apparatus, that of the body being, according to M. ROBERT, † *a thin, colorless liquid, resembling badly clarified whey, which is only slightly viscid*, while that of the neck is *thick, transparent, and ropy, resembling the white of egg, and remarkably tenacious*. In relation to the mucus of the uterine body, M. ROBERT observes that it is not unusual, in the autopsy even of women who had not complained of uterine symptoms, to find it of a more or less red color, owing to the admixture of blood,—blood globules appearing under the microscope.

This is not surprising when it is considered that the membrane which secretes it is the periodical seat of congestion that relieves itself by sanguineous exudation, and that it is, beyond all other membranes of its class, prone to hemorrhage. Hemorrhagic depletion would seem to be the natural remedy of its congested state rather than hyper-secretion, which is more usual in the mucous membrane of the neck, in common with all others of the same class. Judging from the nature of the membrane and its secretion, Dr. BENNET is, I think, correct in declaring that a sero-sanguinolent discharge is as characteristic of internal metritis as the rust-colored expectoration is of pneumonia. Between such a discharge and the albuminous, tenacious mucus of the neck the difference is so great that it can hardly escape notice, and each points almost unerringly to its source.

3. *The uterine sound enables us to demonstrate the precise source of discharges from the womb.* Inflammation of either cavity of the uterus is almost invariably attended with a patulous

* Histoire Générale et Particuliere du Développement des Corps Organisés.

† Archives Générales.

state of the orifice by which it communicates with the vagina, the outlet of its redundant secretion. Those who have used the speculum, even in a few cases, must be familiar with this fact, as far as the external or vaginal orifice of the uterus is concerned. It is easily seen to be enlarged and quite patulous in any case of *cervicitis*; and if its canal be explored by the sound, we shall find that the *cervico-uterine* or internal orifice is either more patulous or more contracted than in a healthy state, according as the inflammation has or has not extended into the cavity of the body. If the sound pass with unusual difficulty or cannot be made to penetrate at all, we may consider such obstruction conclusive proof that the inflammation is limited to the neck; while, on the contrary, if no resistance be encountered, and the sound penetrate readily, as if there were no internal orifice but one continuous, ample channel, it is equally certain that the body is implicated.

I have satisfied myself, by such exploration aided by other signs, that inflammation of the lining membrane of the body not unfrequently exists in connection with cervicitis; but I have never met with an instance of it where the neck was unaffected. So far as my own observation goes, therefore, inflammation of the body may well be called metritis or uteritis, for it is always associated with inflammation of the neck and thus the entire organ is involved. Who will venture to affirm that inflammation of the neck always or even frequently involves the body? And yet, unless it can be established that the body is often inflamed independently of the neck, and that inflammation of the neck is readily propagated to it, Dr. WEST's claims in its behalf as the special and elect seat of leucorrhea cannot be allowed.

From these facts and considerations, together with his own admission, it is manifest that Dr. WEST has taken the liberty, not only without proof but in opposition to all that is certainly known, to assign leucorrheal discharges to the *corpus uteri*. I have no hesitation in declaring, as the result of my own experience, that *uterine leucorrhea*, in his sense of the term, is exceedingly rare, and if the cervix be excluded from all participation, I know not indeed that there is in reality any such disease at all.

After having usurped for the body of the uterus supreme importance, Dr. WEST endeavors to define his position, to use a politi-

cal phrase, relative to the neck. "But it may not unnaturally be asked, whether I then believe that the condition of so called ulceration of the os uteri is one of absolutely no importance, adding nothing to a patient's sufferings, in no respect protracting her illness, calling for no treatment? I do not believe this; though at the same time disease of the os uteri is so almost invariably associated with other evident ailments of the organ as to render it very difficult to distinguish accurately one set of symptoms from the other." This is a fit introduction to the beggarly account of local affections which it pleases him to assign the cervix, and a doubt is evidently insinuated whether it is, in its own right, entitled to even these. What is meant by their being almost invariably associated with other *ailments* of the organ? If it be intended to affirm that lesion of the body, appreciable by either the touch or sight, almost invariably co-exists with them, this is contradicted by the most accurate clinical observation, according to which, as I have more than once stated, the neck is often diseased without involving the body. But if the "ailments" referred to be only some functional derangement of the body, it is readily admitted that this may and usually does occur as a consequence of cervical maladies.

Dr. WEST's meagre inventory of diseases of the os uteri begins with an *abraded condition*, which, under some circumstances, is capable of producing very considerable *discomfort*, and as this ought, by all means, to be known and believed, he confirms it by the *remarkable case* of a woman who was the subject of dysmenorrhea and had lived in sterile marriage with two husbands. Under the "impression" (for it could not be certainly determined in St. Bartholomew's Hospital) that the difficult menstruation might arise from a mechanical cause, a sponge tent was inserted in the os uteri and actually produced "a very distressing sense of itching referred to the uterus!" Furthermore, "on the withdrawal of the tent, the edges of the os uteri and the cervical canal, as far as it could be seen, were observed to be very red, and quite denuded of their epithelium, while a rather abundant glairy secretion was poured out from their surface." So long as the abrasion continued, and it did not disappear for *three whole days* after the removal of the tent, the sense of itching and the discharge contin-

uced, though (as the reader must feel greatly relieved to learn) with gradually diminishing severity. This, which the learned Croonian pretends to think a fair type of inflammatory affections of the cervix, resembles rather the *cacoæthes loquendi* which a little rambling talk may suffice to dissipate.

The second affection in the inventory is *a red, and coarsely granular condition of the orifice of the womb*, from which a glairy secretion is abundantly poured forth, with little or no appreciable evidence of uterine disease, for it must be remembered that the orifice is no part of the uterus. This consists, we are told, in hypertrophy of the *papillæ* and is analogous to the granular condition of the palpebral conjunctiva in purulent ophthalmia, and why, we might ask, is it a slight affair in the os uteri and a very grave one in the eyes? The third and last lesion in the list is the *granular metritis* of BOIVIN and DUGES, *i. e.* follicular inflammation of the os uteri, upon which the lecturer descants, but we need not trouble ourselves to follow him. The first of these affections, namely, the abrasion with itching, may be produced at pleasure, and will speedily subside when the irritating cause is removed; the other two are seldom met with in practice, at least with us, whilst simple inflammation, such as all organs and tissues are liable to, is exceedingly common and is much oftener observed in the neck than in the body of the womb. This is emphatically the true burden of controversy, which Dr. WEST would fain keep in the back-ground and from which he seeks to divert attention by putting forward pathological rarities. Cervical inflammation will not, however, always vanish at his bidding, for notwithstanding the secondary and trivial importance assigned it, we find him confessing that it does sometimes outlast the graver evils under which it arose and that it may thus cause "discomfort, leucorrhea, and slight sanguineous discharge, keeping up a perpetual disposition to uterine congestion, which but for it would subside." "That under such circumstances," he goes on to say, "a tendency to slow increase in the size of the cervix uteri should exist, is surely no matter for wonder, since the neck of the womb is more exposed to irritation of every kind than any other part of the organ; while slight though the morbid state may be, it yet is sufficient to produce some increased afflux of blood thither, whence its return is

more difficult than from any other part; and we have already seen how great is the tendency in the uterine tissue under any stimulus, either natural or morbid, to some degree of that hypertrophy which, during thirty years of life, represents its highest physiological condition."

This concession looks very much like a surrender and it could scarcely be regarded in any other light, had he only granted that inflammation may arise in the neck independently of the body. But no, says Dr. WEST, not even a word of explanation is necessary to point out the difference between his opinions and those he has ventured to criticize, and according to which inflammation of the cervix and ulceration of the os uteri are the first and the last in uterine pathology. It seems to me that it matters little whether such a morbid state of the cervix be the first or the last, provided it be admitted that uterine derangement is kept up by it, until it is cured by topical medication.

We are thus led to the most interesting part of our discussion, viz., the treatment of uterine disease, when there is cervical inflammation or ulceration, whether it be regarded as the essential malady or an accidental complication. Dr. WEST enters upon this part of his subject by anticipating a question, which is rather a poser; it is this,—“how is it that such successful results have followed a course of treatment directed exclusively to the cure of the ulceration,—that the application of caustics to the os uteri has been succeeded by the restoration of the patient to health?” Before we examine the solution offered by him, it will be well to note that he does not deny the fact of cures being wrought by those addicted to this kind of medication.

Indeed, if this treatment were all a sham, and no benefit accrued from it, the question could not be entertained for a moment. Unlike many enemies of the speculum, Dr. WEST admits that *womb-burning* is salutary or, at any rate, that it is not incompatible with the restoration of the patient to health; but like his prototypes of old, the Pharisees, who admitted the truth of miracles that could not be gainsaid but attributed them to satanic agency, he seeks an explanation of the success of the treatment he repudiates in the circumstances provided for the patient rather than in the direct caustic medication.

The collaterals, to which such remedial efficacy is awarded, are, temporary separation from the husband, rest in a recumbent position, attention to the bowels, regulation of the diet, and when convalescence ensues, a visit to the country or some watering place, if the patient's circumstances permit. The very simplicity of these salutary measures is, he alleges, a bar to their adoption, should they be recommended as in themselves the means of cure, but when enjoined only as necessary conditions of a cure by cauterization, they are willingly submitted to. As to cauterization with the nitrate of silver, the article most frequently used, the surface to which it is applied, says Dr. West, is covered by a thin layer of albuminous secretion, which greatly diminishes the power of the agent, so that it seldom does harm, sometimes does real good, though no more than might be attained by vaginal injections used by the patient herself!

From this condensed statement of the reply of Dr. West to the question, it will be perceived that he has a very exalted opinion of the efficacy of rest and of abstinence from whatever is calculated to aggravate uterine inflammation, in which I entirely concur. But are these measures curative? and will chronic inflammation of the cervix yield to hygienic treatment alone? None but a neophyte would venture to answer these questions affirmatively, and my own observation authorizes me to declare the inadequacy and consequent inefficacy of such measures; they are beneficial as adjuncts but impotent as remedies. Many patients have come under my observation who had thoroughly tested such treatment under the direction of other practitioners and had vaginal injections to boot, who nevertheless were not cured. But it will be observed that if Dr. West's appreciation of "simples" is very high, his estimate of cauterization is proportionably low, and none of his assertions or perversions, I confess, has surprised me more than his brief allusion to the nitrate of silver as a topical remedy. The efficacy of this kind of medication in kindred, I might say identical affections of other mucous membranes, is so well established that a lecturer before a learned society ought not to have called it in question, respecting uterine inflammation, unless he had proof that the genital mucous membrane is unlike all others of its class. It is true, that he does not exactly say that the nitrate

is inert *per se*, but the surface of the os is shielded from its causality by a layer of albuminous mucus,—a wise precaution, it may be supposed, of nature, foreseeing that there would be womb-burners in the last days.

Unfortunately for Dr. WEST's theory, however, but fortunately for the womb, this albuminous shield is rudely assaulted by every cauterizer with a formidable weapon, called by his Gallic neighbors *plumasseau de charpie*, of which he may have heard, which brushes it aside *an 'twere any cobweb* and exposes the naked surface to the contact of the nitrate crayon. There can be no doubt that the uterus may be cauterized more perfectly than the tonsils or fauces and more readily than the larynx, and certainly no reason can be imagined why the remedy should not be as efficacious when applied to it as to them. What analogy suggests experience has abundantly confirmed, for if it be true that these cases, after having resisted the best directed hygienic measures, have yielded, not once but in hundreds of instances, to cauterization, what other or stronger evidence can we obtain in favor of any remedy?

Valuable as cauterization is, however, in the treatment of inflammation of the cervix uteri, it is not the only topical remedy employed in such cases, nor is the nitrate of silver the only caustic that may be advantageously applied. The abstraction of blood directly from the affected part, by leeches or scarification, is often useful and may sometimes supersede cauterization, while the most beneficial results may often be obtained by medicinal applications that are not caustic in their operation. Still, cauterization is applicable to so many cases, where depletion is not indicated, and is so often preferable to other local medication, that we need not hesitate to admit that it is the prominent and distinctive feature of our treatment.

Whilst Dr. WEST denounces cauterization with the nitrate of silver as nugatory or simply superfluous, he thinks it would not be right to leave unnoticed other cases, in which the neck of the womb being more or less enlarged, stronger agents are employed. The stronger agent referred to is the caustic potash, which he summarily condemns on account of the pain it produces and the risk of subsequent inflammation of the uterus and its appendages. I have often used this article or its equivalent, the *potassa cum calce*, in

the treatment of such cases and may, therefore, presume to know something about its immediate and remote effects. All my own observation is contradictory to the assertions of Dr. WEST, both in regard to the pain and danger of the remedy. On the first point, Dr. WEST may speak for himself, the rather, as it will plainly appear that he contradicts, in this place, what he affirmed in his first "lecture." "If the caustic be introduced, as is usually done, within the cervical canal, it is allowed that the pain produced, and which sometimes lasts for two or three days, is very intense, causing nausea or sickness, and sometimes even syncope, or occasioning extreme depression, prostrating a patient so completely as to render her unable to quit her bed or sofa for several days."

Compare this statement with what was asserted in his first lecture touching the insensibility of the neck. "The cervical canal has been forcibly dilated, it has been incised; the tissue of the cervix has been burnt with the strongest caustics, or with the actual cautery, or portions of it have been removed by the knife, generally with no injurious consequence; often with so slight a degree of constitutional disturbance, or even of local suffering, as to surprise those who advocate, little less than those who condemn, such proceedings."

But I am afraid that if Dr. WEST's consistency may be called in question, his accuracy in representing the practice of others is not unimpeachable. It is not true that the caustic potash is usually introduced into the cervical canal; far more frequently it is applied to the exterior of the neck, in cases of enlargement and induration, and there only to a small part of its superficies for the purpose of forming an eschar, precisely as an eschar is made upon any part of the skin. The suppurative inflammation that detaches the eschar is followed by purulent discharge, under the influence of which the morbid tissue softens and returns gradually to its healthy condition, while the body of the womb, if implicated, is ameliorated by the counter-irritation established in the neck. In those comparatively rare cases in which it may become necessary to introduce this powerful agent into the cervical canal (and I have met with such), it is never with a view to produce an eschar but to make a somewhat more powerful impression than the nitrate of silver can, or at most to cauterize very superficially.

In the former case, the caustic is held in contact with the neck six or eight minutes; in the latter, not longer than as many seconds. Such at least is the procedure of Dr. BENNET, who is doubtless the butt of Dr. WEST's criticisms, and who, I may add, is the embodiment of the doctrine and practice he is striving to eradicate. On this point, Dr. BENNET says, "When applying potassa fusa or potassa cum calce to the cavity of the neck of the uterus, I never leave it more than a few seconds in contact with the diseased surface, as the object is not to create a slough, but profoundly to modify its vitality. I generally use the smallest cylinder, which, from its size, moves freely in the enlarged cavity, only applying it where there is evident morbid dilatation; and never beyond half or three quarters of an inch in depth, even when the disease appears to penetrate farther."

What will now be thought of the controversial fairness of Dr. WEST, when we find that immediately after mis-stating the surface of the cervix usually cauterized with potash, he misrepresents the intensity of it by speaking of the eschar produced by it!

I have not myself observed that the pain resulting from the application of the *potassa cum calce* is much, if any more severe than that produced by the nitrate of silver, and it has not fallen to my lot to witness a solitary instance of supervening inflammation of the uterus and its appendages. But although I might be emboldened by such experience, I do not advocate a resort to the most powerful remedy, which may, and in careless hands doubtless will do mischief, until milder and less hazardous means have been fairly tried, unless the case be such an one as the practitioner is satisfied, by experience and careful observation, will require the more powerful. The application of caustic potash to the interior of the neck is liable to be followed by contraction and even obliteration of its canal, impeding or altogether obstructing its functions, and such consequences are always to be apprehended from its injudicious management. It ought therefore, not to be practiced without all the precautions, which Dr. BENNET and other authors are at such pains to inculcate. Its liability to abuse is, however, no argument against its proper employment, and it is certainly quite indispensable in some cases. He who has not met with such, and idly fancies that the neck enjoys immunity from

essential disease, reflecting only the pathological images cast upon it from the phantasmagoria of the body, has yet much to learn ere he will be qualified to combat its deep-seated lesions.

But suppose, for argument's sake, the neck and its diseases as unimportant as Dr. WEST will have them, how shall chronic inflammation of the lining membrane of the body be treated? Are constitutional remedies adequate to its sublual? or is it beyond the reach of topical medication? These are important questions, not mooted by Dr. WEST, and if, in answering them, it shall appear that this portion of the organ is accessible to topical remedies and that its diseases may be ameliorated or eradicated by them, when constitutional treatment alone is unavailable, the speculum will maintain its ground notwithstanding his covert attack upon it. From the whole tenor of his lectures we may safely infer his repugnance to the speculum, and we may confidently predict that those who share his antipathies will feel themselves wonderfully braced by the perusal of them. If other evidence of this disguised repugnance were wanting, we might point to his studied silence respecting all that has been proposed and done, in the way of local medication, with a view of curing affections of the uterine body, notoriously rebellious to every form of constitutional treatment. For aught that appears to the contrary, in his lectures, it is only necessary for disease to nestle in the *corpus uteri*, in order that it may be safe from the encroachments of the speculum and enjoy an indefinite incubation.

M. MELIER is the first writer, so far as I know, who recommends pursuing inflammation to its innermost recess in the cavity of the uterus. The main design of his memoir, cited in my second lecture, was to prove that the uterus, though belonging to the class of internal organs, may be made, to all therapeutic intents and purposes, an external one, and that, by means of the improved speculum employed by him, its diseases may be treated locally with the same precision and effect as external or surgical affections. The speculum used by him was a metal conical tube with a wooden stopper, terminating at one of its extremities in a round or conical head that projects some lines at the small aperture of the tube, while the other extremity projects also in the form

of a handle,—a kind of instrument novel at the time but familiar to every one at present. In the treatment of chronic inflammation of the os uteri and ulcerative disease of its exterior, M. MELIER attached great importance to local baths, simple or medicated, administered through the speculum, and dressings of divers unguents spread on lint and applied to the affected part. These local baths and dressings he directs to be repeated every day or two,—the bath to be continued fifteen to thirty minutes, and the dressing to remain till it is replaced by another. He affirms that prompt cures were obtained by such treatment, in cases that had proved wholly intractable to ordinary remedies.

When, however, there was inflammation of the lining membrane of the neck (so graphically described by him, as we have seen), extending, as he surmised, in some cases, into the body itself, applications to its exterior merely were found inefficacious and hence he was induced to make trial of local remedies applied to the interior. To accomplish this, he made use of a hydrocele syringe with a gum elastic tube, which was introduced into the cervix a short distance above its external orifice, with a view of injecting its cavity, first with simple water to absterge it of its viscid mucus, and then with aqueous solutions of medicinal agents according to the indications to be fulfilled. He had reason to believe that the entire cavity of the womb was injected by his procedure. Sometimes there was reflux of the injected fluid before the tube was withdrawn; in other cases, it was retained until expelled by uterine contraction, accompanied with sharp pain of transient duration, followed by no accidents or dangerous consequences. M. MELIER reports favorably of these uterine injections though he states expressly that the cases in which they were employed were very protracted and difficult to subdue,—a confession which proves his good faith to the satisfaction of every one practically conversant with such cases.

Since the publication of M. MELIER's memoir, injection of the uterine cavity has been resorted to by many practitioners, some of whom profess to have obtained satisfactory results from it, whilst others question its safety as well as its utility. In 1840, M. VIDAL (DE CASSIS), who is a great champion of the practice and has charge

of a female hospital in Paris, the *Lourcine*, published an essay on the subject,* in which he endeavors to account for the different results and conflicting opinions, which he ascribes to—

1st. Difference of procedure.

2nd. Errors of diagnosis.

3rd. An erroneous interpretation of the symptoms consequent to these injections.

To obviate the objection that there is danger of the injection passing along the Fallopian tubes and thus penetrating into the peritoneal cavity, he performed a number of experiments on the dead body, characterised, according to the manner in which they were performed, as—

1st. Forceable injections.

2nd. Abundant injections.

3rd. Moderate injections.

It would not be interesting or instructive to transcribe the details of these experiments; their result may be briefly expressed. The subjects were women of different ages, most of whom had borne children. In some, the uterus and its appendages were left in their natural connections; in others, they were removed from the body. Both large and small syringes were used for the injections, with long canulas inserted in the mouth of the womb, secured, in some, by ligatures around the cervix to prevent reflux of the fluid. *When a large syringe was used and the injection was made forcibly or abundantly, it often penetrated into the uterine veins and sometimes exuded by one or both Fallopian tubes.* *When, however, the injection was made with a small syringe, and of course in moderate quantity and with little force, it always returned by the mouth of the womb by the side of the canula and never passed into the Fallopian tubes or reached the peritoneal cavity.*

These experiments indicate, as M. VIDAL thinks, the kind of injections which ought to be made in the living, and accordingly he recommends for the purpose a *bivalve speculum*, a *small syringe*, not containing above twenty grammes of liquid, and a *small sil-*

* *Essai sur un Traitement Méthodique de quelques Maladies de la Matrice.*

ver canula, with several little holes in its bulbous extremity. Care is to be taken to expel the air from the syringe, and other precautions are also inculcated by him, such as,—

1st. Injections ought not to be practiced three days before the approach of the menses or three days after their cessation.

2nd. They ought to be deferred six months after accouchement or abortion.

3rd. They ought to be taken on an empty stomach (*La femme devra être à jeun*). M. VIDAL, moreover, usually prepares the patient for these injections, which he distinguishes as *intra-uterine*, by injections thrown with great force from a large syringe on the os uteri, having previously exposed the part by the introduction of a bivalve speculum, and this is his *intra-vaginal* injection. External affections of the cervix he treats by *intra-vaginal* injections, which may be repeated daily, and his favorite injection of this kind is a decoction of walnut leaves. The *intra-uterine* injections are not repeated so frequently, and a weak aqueous solution of iodine and the iodide of potassium, viz: a half grain of the former and one grain of the latter to the ounce of water, is most commonly preferred by him.

The effects produced by uterine injections are, according to M. VIDAL, very variable. Some females experience no pain, either immediate or consecutive, whilst others complain, at the moment, of a burning sensation in the womb or pain in the iliac regions, which either gradually abates or increases in intensity. If no pain is felt at the time, the patient may be attacked with a violent abdominal pain or cholic, an hour after the operation, accompanied with so much tenderness and febrile reaction as to simulate peritonitis, for which it has been mistaken; but M. VIDAL insists that the phenomena are purely nervous and will subside, in a day or two, without the employment of antiphlogistic remedies, which indeed do not even abridge their duration. Dr. ASHWELL is of a different opinion. In his chapter on leucorrhœa, he relates several cases of what he deemed hysteritis consequent to uterine injections of a mild kind; in one of them nothing but tepid water was used, which, however, was followed by such "marked evidence" of hysteritis, as to call for bleeding, both gen-

eral and local, purgatives, fomentations, and a strict antiphlogistic regimen.*

In my own practice I have not resorted to uterine injections for the last several years, having been deterred from their employment by the violent and apparently alarming symptoms which were occasioned by them in a few of my cases. The symptoms were sudden severe pain in the uterine region, accompanied with cramps, coldness of the extremities, and depression of the pulse. Brandy and laudanum, repeated at short intervals, together with frictions and sinapisms to the extremities, afforded relief, in the course of a few hours, and no injurious consequences ensued. But I was reluctant to incur the risk of such sudden alarms and agitations, even for the sake of all the benefit that might be expected from the practice. This was the more to be regretted, as I had unequivocal evidence of the efficacy of the treatment where it could be borne without these alarming effects.

Considering the subject in all its bearings, it occurred to me that such sudden and violent symptoms must be owing more to the *mode* in which the remedies were applied than to actual intolerance of the internal surface of the uterus. Acting upon this view, instead of abandoning the use of topical remedies altogether, I began to introduce them upon strips of lint, pushed into the uterine cavity with a probe or sound. I first applied the nitrate of silver in this way, notwithstanding that experience had taught me that a weak solution of it,—two grains to the ounce of water,—injected into the uterus, might be followed by the alarming symptoms that have been detailed. I used, in commencing, a very weak solution, carefully prepared by the apothecary, and finding that it caused no more pain than an ordinary cauterization of the os uteri, I was emboldened to make it stronger and stronger, until I ceased to have it prepared by weight and measure, but took a strip of lint, wet it thoroughly with water, and passed the stick of caustic over it till it was imbued with, as I judged, a saturated solution. I have cauterized the internal surface of the womb in this manner, in quite a considerable number of cases, without any of the alarming consequences incident to intra-uterine injection.

* A Practical Treatise on the Diseases peculiar to Women.

No practitioner hesitates, in cervicitis, to push the nitrate crayon into the neck to cauterize the whole extent of its internal surface. Experience warrants me to declare that we may, with as little hesitation, treat the internal surface of the body in the same manner, only a saturated solution is preferable to the stick, on account of its liability to break and be retained in the cavity,—an accident which sometimes happens in the neck. All the local remedies that are had recourse to in affections of the neck may be applied in the same way to the body, not excepting even the *potassa cum calce*, as intimated in my first lecture, though, to avoid being even the remote cause of mischief, I must say again that so powerful an article needs great circumspection in its use; it should be applied only for a few seconds, lest it burn deeply and produce irreparable lesion of the organ. Either as an application to the *interior* of the neck or the body, it must be allowed to be a most unsafe remedy, in careless or unskillful hands. It may be objected that an article so potent and liable to abuse ought not to be used at all in the treatment of uterine disease. To this I reply that inflammation of the genital mucous membrane is sometimes so inveterate, especially when associated with enlargement and induration of the organ, that no milder means will make any remedial impression upon it. The effects of this agent in such cases, when it is judiciously managed, are indeed admirable. Under its transforming influence, the inflammatory vice is eradicated, probably by the dissolution of the old membrane and the production of a new one, while the deeper-seated tissues are restored to a healthy or at least to a healthier condition.

A word or two of explanation may be needed in regard to the manipulation I practice. The only instruments necessary are a bivalve or tubular speculum and a Simpson's uterine sound, slightly bent at the first knob, two and a half inches from its point. The speculum being properly introduced, take a strip of lint, four or five inches in length and about a quarter of an inch in breadth (narrower or wider according to the patulousness of the uterine canal), and after saturating it with the solution to be applied, take it by one of its extremities with the speculum forceps and lay it upon or a little within the os uteri. Then insinuate the sound into the uterine orifice, carrying the lint before it, and in-

introduce it rapidly into the cavity, lest the contraction excited by the application should offer some impediment to its complete introduction. When the sound is inserted the whole length of the cavity (about two and a half inches) one extremity of the lint will be pendent at the uterine orifice, and by this it may be easily extracted with the forceps, should it chance to remain in the cavity after the withdrawal of the sound. The lint may be held in the uterus a minute or two, when any article is used except the *potassa cum calce*, and its contact with every part of the cavity may be promoted by turning the sound a few times on its axis.

